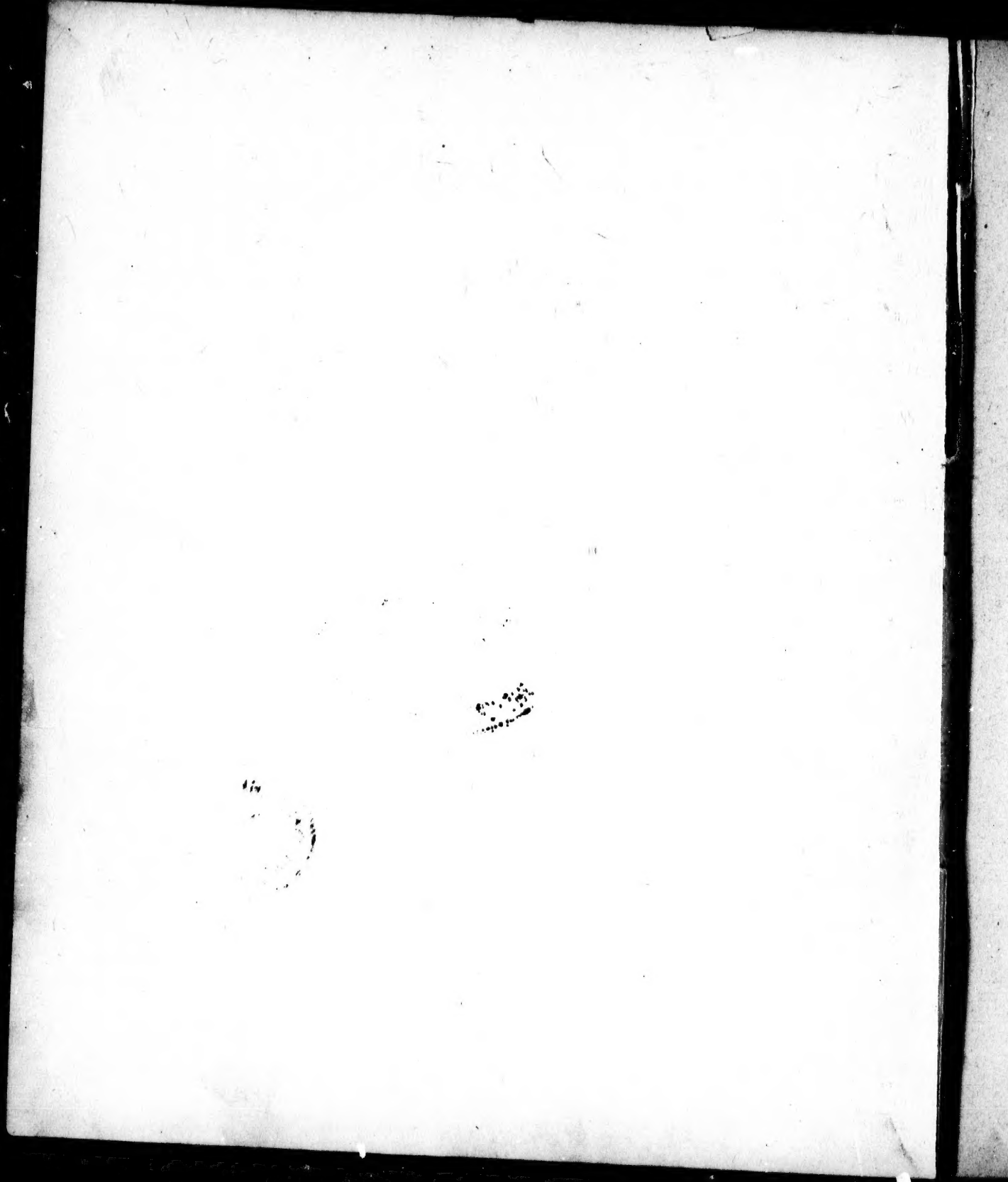
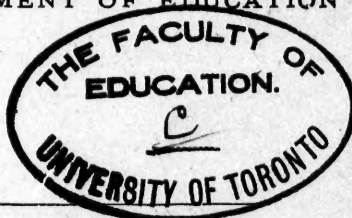




THE
PUBLIC SCHOOL
GEOGRAPHY

AUTHORIZED FOR USE IN THE PUBLIC SCHOOLS, HIGH SCHOOLS,
AND COLLEGIATE INSTITUTES OF ONTARIO, BY THE
DEPARTMENT OF EDUCATION



Entered according to Act of Parliament, in the Office of the Minister of Agriculture, in the
year 1887, by the CANADA PUBLISHING COMPANY (Limited)



TORONTO
CANADA PUBLISHING COMPANY
(LIMITED)

This historical map of the Pacific Ocean, titled 'THE PACIFIC OCEAN', is a circular projection showing the world's largest ocean. The map is centered on the Pacific, with the Americas to the west and Asia and Australia to the east. It features a grid of latitude and longitude lines, with the equator and tropics clearly marked. Major cities and geographical features are labeled, including San Francisco, New York, London, and the South Pole. The map is surrounded by eight smaller diagrams (Fig. 1-8) illustrating different map projections and a cross-section of the ocean floor (Fig. 9-10).

The main map is labeled with 'NORTH TEMPERATE ZONE', 'TROPIC OF CANCER', 'EQUATOR', 'TROPIC OF CAPRICORN', and 'SOUTH TEMPERATE ZONE'. It also shows the 'PACIFIC OCEAN', 'GULF OF MEXICO', 'CARIBBEAN SEA', 'INDIAN OCEAN', and 'ANTARCTIC OCEAN'. The map is surrounded by eight smaller diagrams (Fig. 1-8) illustrating different map projections and a cross-section of the ocean floor (Fig. 9-10).

Fig. 1. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 2. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 3. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 4. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 5. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 6. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 7. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 8. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 9. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

Fig. 10. A diagram showing a globe with latitude and longitude lines, illustrating a map projection.

The map includes a scale bar at the bottom, showing distances in feet (0 to 80,000) and miles (0 to 100). The map is titled 'THE PACIFIC OCEAN' and 'ANTARCTIC OCEAN'.

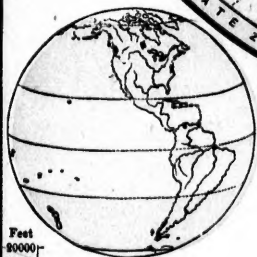


Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.

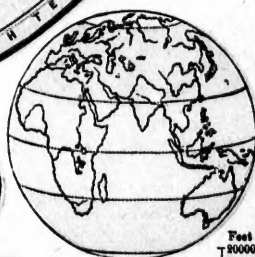
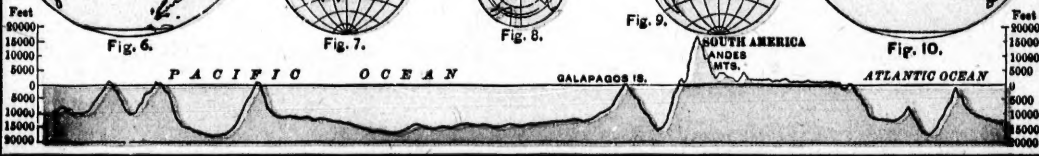
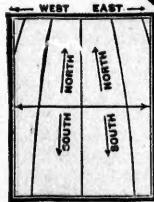
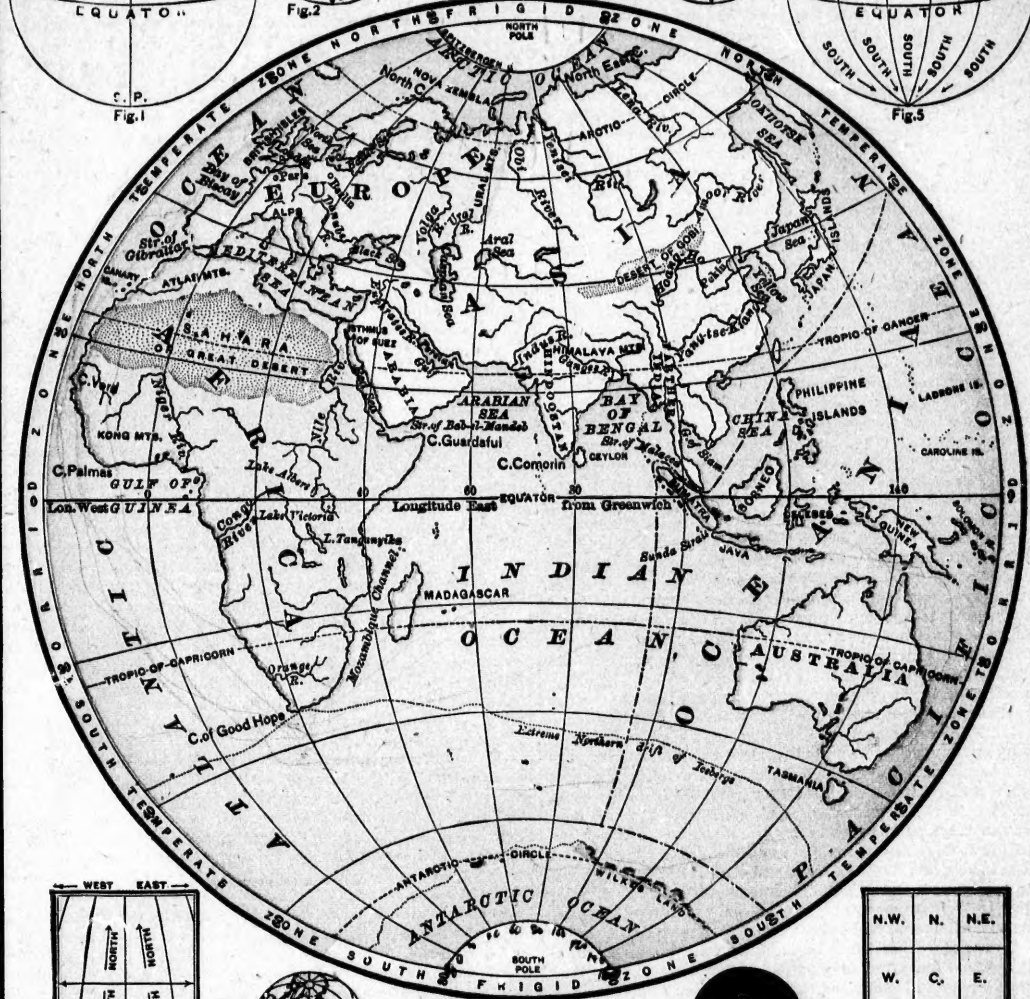
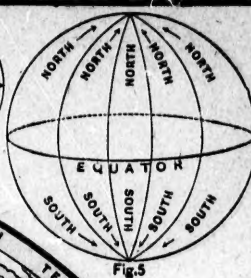
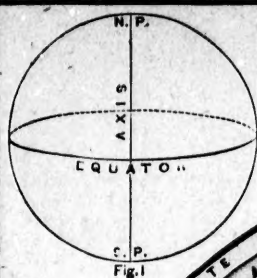


Fig. 10.





TO THE TEACHER.

THE study of Geography, often the driest and most wearisome the pupil has to deal with, will always be so unless the Teacher "to his knowledge adds understanding," and presents the subject so that, while he satisfies the child's eager curiosity by offering to it well arranged facts, he also enkindles the child's imagination, and thus makes possible the mental assimilation of these facts. In other words, it is from the Teacher's own lips, from his own vivid portraiture and apt illustration (as well as orderly grouping) of the infinite number of details which make up the great mass of geographical knowledge, that the pupil must catch that necessary enlivening of the imagination which shall give to his conceptions of these details the vividness of comprehension without which they will be forgotten in a day or two, or, if remembered for a longer time, will be utterly valueless.

For example, suppose a child learns from his *Geography*, or otherwise, that "the commonest timber trees of Ontario are the pine, the spruce, the hemlock, the oak, the elm, the ash, the maple, and the beech": what chance has he of remembering this fact (or of what value is his knowledge to him if he does mechanically remember it?) unless at the same time he acquires some definite and apprehensible (apprehensible, because interesting and useful) ideas in regard to these trees, their appearances, their manners of growth, their relative plentifulness or rarity, their qualities (whether hard in the grain or soft, whether easy to be worked or difficult, whether durable or quick to decay), their respective utilities, and so on? Yet even in his method of developing these ideas the Teacher may make serious error; he may think that by perfectly describing these matters in correct phraseology and obtaining his descriptions from the pupils in return, he has done his whole duty, when in reality he has failed almost altogether. These ideas should not be *implanted* in the minds of the pupils,—they should be *begotten* there—by the development of simpler related ideas which the pupils already have: that is to say, the Teacher, by a series of apt questions, and apt illustrations, and apt appeals to their own experiences, should develop in the pupils' minds the concepts which he wishes them to retain.

Take another example. Suppose the statement which the pupil is desired to remember is that "the forest vegetation of Brazil is dense and luxuriant." The phraseology is simple; not a word is used that the pupil does not understand; and yet if nothing be done to illuminate that statement with the light of the pupil's previously acquired knowledge, it will remain a dead fact, or disappear from his mind altogether. But if the nature of a forest, the effects of heat upon vegetation (as manifested in summer growths and in hot-house growths), the effects of dampness upon vegetation (as manifested in swamps and in rainy seasons),—if these and other related notions are elicited or developed from the pupil's own experience, they will give such reality to the statement in question, and so illustrate it, that its impression on the mind will be indelible.

Again, every geographical fact is naturally connected with some other geographical fact; and this, again, with some other; so that the fact most foreign to the pupil's experience may be brought in close relation to it, if sufficient pains be taken. For example, the statement that "in Siberia great quantities of fossil ivory are found" is a dry and uninteresting one in itself, and one likely to be soon forgotten. But if notions respecting the appearance and uses of ivory (as, for instance, the smoothness, whiteness, and non-metallic lustre of piano-keys, ivory knife-handles, ivory chess-men, and so on), and also concerning ivory in its natural condition—the tusks of elephants—be elicited from the pupil's experience; and then if the facts be clearly stated and illustrated that the mammoth (which was a tusk-bearing animal—a sort of elephant) was once an inhabitant of Canada, and that remains of mammoths with their ivory tusks have been found in several places in Ontario, but that in Siberia (where also in former

ages the mammoths were inhabitants, and where they seem to have been very numerous) their remains have been much more perfectly preserved, Siberia being a very cold country,—if these notions and facts are all brought out and logically linked together, the pupils will undoubtedly have a vivid and never-to-be-forgotten realization of the meaning of the statement referred to.

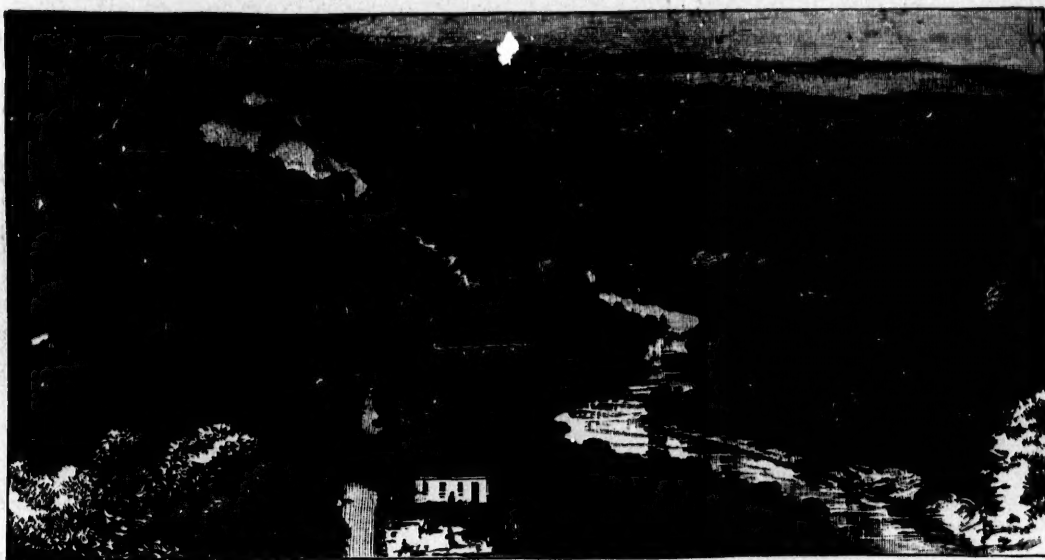
In the *Public School Geography*, then, it is intended that the *whole of the matter shall be presented to the pupils by the Teacher*—not in a series of categorical statements to be accepted by the pupils without reflection and without comment, but in a series of conversations, consisting to a large extent of questions by the Teacher and replies by the pupils—questions, *not* on what the pupil has consciously committed by rote from the text book, but on what he has obtained for himself, he knows not how, from the use of his eyes and ears and brain, ever since he began to observe and think;—conversations consisting, moreover, of volunteered statements which the pupils should be encouraged to offer, based on their own reading and research. Hence much of the matter of this book is marked "*To the Teacher*," the intention being that the Teacher shall use *just so much of it or so little as he may think best*, after having taken carefully into consideration the age and capacity of his pupils and other local and individual circumstances.

Again, a very great deal of discretion is very properly allowed to the Teacher in respect to what may be called "Structural Geography," or the coast and surface features of countries, with their nomenclature. Very frequently this is made the whole burden of geographical study, although it ought really to play only a subordinate part in it. And since this knowledge should be obtained entirely from the study of the maps under the guidance and oversight of the Teacher, it has been thought best not to over-fill the text with a mass of details which are sufficiently well indicated by the maps. The Teacher is supposed to be able (as it is his duty) properly to direct the pupils in their study of these matters; in a few instances, however, some assistance has been offered here by indicating methods, where great choice lay, which experience has proven to be good.

As the *Public School Geography* is intended for several years of study (extending over the whole Public School course) the earlier chapters of the book have been made very simple and have been couched in simple conversational language; as the book proceeds, however, the degree of minuteness with which the topics are treated increases somewhat, and the style becomes more formal and precise to allow of condensation of expression. In consequence, the various parts of Canada have not perhaps received that attention which their importance merits; if this appears so to the Teacher he can supplement the matter here given by information obtained from the *High School Geography*.

And it is earnestly recommended that the Teacher shall not confine himself to the facts herein detailed in reference to any part of the world. Especially should he be ready with appropriate passages of travel, and with descriptions of scenery, and of the natural products of countries, and of the manners and customs of their peoples, by reading (and subsequently conversing about) which, he may illustrate (as in no other way he can), the concise statements of the text.

The Teacher should be careful to remember that all the *Geography* is not to be committed to memory, or indeed more than a small part of it;—he who should insist upon his pupils memorizing the numbers representing the square miles in the various countries of the world, or even a table of their relative sizes, would be worse than an intellectual tyrant—he would be a destroyer of intellect. But the skilful Teacher will find no trouble in devising ways and means whereby he shall assure himself that his pupils *understand* what their text-book contains; then, what is useful for them to remember, they will remember without much subsequent effort.



INTRODUCTORY.

LESSON I.

INTRODUCTORY—THE TEACHER TO HIS PUPILS.

1. **The Teacher's Greeting to his new Geography Class.**—I am glad to see so many happy faces in my new class this morning. You are happy because you have been promoted, and because you are eager to know what you are going to study in your new books, and particularly in this large one full of pictures. It is called a *Geography*; and you are right in thinking that it will be a very delightful book. If you listen closely, and try to remember what we talk about, you will find the hour we shall spend in studying it one of the happiest hours of the day.

2. **What the Pupils already know.**—In your reading lessons you found many interesting things about animals and plants. You there learned where tea grows, what the coffee tree looks like, that sugar is made from the sugar-cane, and how cotton is gathered and made into cloth. You found there, also, much about the reindeer, the fierce tiger, the huge whale, and the majestic lion.

3. **The Pictures of the new Geography.**—You will find pictures of many of these things in your

new book; and pictures, also, of panthers and leopards, elephants and kangaroos, crocodiles and ostriches, buffaloes, great snakes, comical little monkeys, and strange birds and trees. Upon one page, you will see a picture of men, women, and children, gathering grapes in a vineyard. On another page, is a picture of several boats with fishermen catching codfish. In one place, down in a deep mine, are miners digging out coal; in another place, you will see, on the edge of a dark forest, some lumbermen chopping down trees, while others are hauling logs to a saw-mill. And again, in another picture, there are men on horseback chasing wild cattle and trying to lasso them, by throwing over their horns a strong leathern rope with a noose at the end.

4. **What Geography is about.**—All these, and the many other pictures, will make you begin to think that our new *Geography* is to tell us about the different countries of the world; and, as many of the pictures represent things in Canada, we shall, perhaps, learn more of our own country than of any other. And now I see you are well pleased with the thought of learning all about the people, animals, and plants, of your own and other lands, and about many of the strange and curious things to be seen in the different parts of the earth.

Among other things, we shall hear of many different kinds of people—of some who are wild and savage, and who spend their time in hunting and in fighting with each other. We shall make some imaginary voyages, over great oceans, past enormous ice-bergs, and among islands full of trees laden with oranges and other delicious fruits. We shall visit wonderful boiling springs, and climb lofty mountains. We shall sail up mighty rivers, and hear the roar of tremendous cataracts; and we shall walk through the streets of great cities, and behold their beauty and magnificence.

5. Definition of Geography.—We call all this the study of Geography; and this is what I wish you to remember: that

Geography describes the countries, the people, and the products of the world.

And now I shall explain our lesson for next day, which you will study from your own *Geography* at your seats. You will find it to be a lesson about Direction and Distance.



LESSON II.

DIRECTION AND DISTANCE.

1. Direction.—We shall have to learn in our Geography class about many places we have never seen; and one of the first thoughts we must have about any new place is, "Where is it? In what *direction* is it from here?"

2. East and West.—We can learn about direction from the sun, for it seems to rise every morning in the same part of the sky. That direction is called the *East*; and in the evening it sets in the *West*, or in that part of the sky directly opposite to the East.

To the Teacher.—Make this and subsequent Exercises practical and interesting by getting some of the pupils to do what is asked for. For example, in dealing with the first question, ask one of the children to walk to the east wall of the room, as well as to answer the question in words.

Exercise.—1. Which is the east side of the schoolroom? 2. In what direction is a little girl running when the first sunshine of the morning comes directly on her face? 3. Stand on the floor and take two steps westward. 4. When driving in a carriage at six o'clock on a summer evening, in what direction will your shadow fall? 5. Extend both arms so that the right arm points to the east. 6. In what direction does the left arm then point?

3. North and South.—You have now learned two directions, East and West; there are two directions more to learn. Stand in the middle of the room and raise both arms, so that *the right arm points to the East*, and the left arm to the West. This brings your face to the *North*. Take four steps forward: you are now

travelling towards the North. Now turn round until your back is towards the North: you are looking towards the part of the sky opposite to the North, and this direction is called *South*: now walk four steps forward: you are travelling towards the *South*.

These four direc-

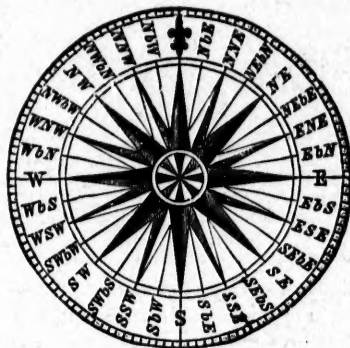
tions, East, West, North, South, are *the four chief directions*. By them, when we travel, we can describe the way we go; and by them, also, we can tell a stranger how to find a place, if he ask us.

Exercise.—1. Stand on the north side of the room, and take two steps east, two steps south, two steps west. 2. In what directions does your shadow fall at midday, at sunrise, and at sunset, respectively? 3. In what part of the sky will a rainbow appear in the evening? 4. If you watch the sun go down behind a distant hill, in ~~what~~ direction is the hill from you?

4. The North Star.—We have now learned how to tell direction by day when we can see the sun; but how can we tell east, west, north, or south by night—especially if we are in a strange place? Well, on a clear night, travellers on land, and sailors out on the sea, often find their way by looking at *the North Star*. Ask some one to point out to you the *Dipper* and the *Pointers*. By

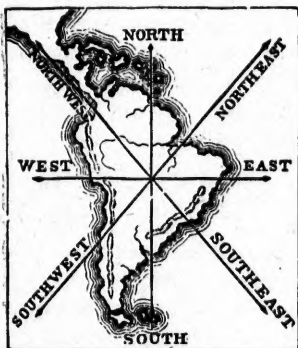
them, you can always tell which is the North Star, when the stars are to be seen.

5. The Mariner's Compass.—But if the sun and stars were both hidden from sight, how could we then determine which is north? Some of you have seen a pocket compass. In it there is a little needle made of steel, and this needle *always points to the north*. Thus this wonderful little instrument enables us to tell which way is north; and by the printed card within the compass, we can tell the four chief points or directions, and also the points between these—north-east, south-east, south-west, north-west. Thus you see that the steersman of a ship, in the darkest night, or the surveyor, in the midst of a dense forest, knows how to go in whatever direction he wishes.



To the Teacher.—Explain to the pupils the directions, north-east, south-east, etc.; also the symbols N., S., E., W., N.E., S.E., N.W., S.W. Drill the pupils thoroughly upon all these eight directions.

Exercise.—1. Point out the N.E. and the S.E. corners of the schoolroom. 2. In what part of the sky is the sun in the middle of the afternoon? 3. What direction is opposite to S.E.? 4. If you stand with your right arm pointing to the north-east, towards which part of the sky is your face turned? 5. Draw on your slates a circle to represent the Mariner's Compass, then mark lines to denote the eight directions we have been talking about. Put letters at the ends of the lines to tell the directions. Now hold your slates so that



the proper line points to the east.

6. Distance.—But to tell where a place is, we need to know another thing about it. First, we must get the proper direction, then we must know how far it is from

us—that is, we must know its *distance* as well as its direction. To be able to measure distances, and to make other measurements, is a very important thing in the study of Geography. You all know how to measure short distances with the rule, and with the tape-line; and you know the length of an inch, a foot, a yard, or a mile. We shall now try to put some of your knowledge into practice.

To the Teacher.—Propose other questions and exercises similar to the following, and induce the pupils to ask questions of their own. Explain the meaning of the word right-angle. Direct the pupils to rule a margin on their slates, and to number their answers to correspond to the questions

Exercise.—1. Name the direction of your own home from the school. 2. Name the direction of the nearest church from the school. 3. If you were to walk from the nearest post-office to the school, name the direction and the distance of your walk. 4. What is the name of the nearest river or creek? 5. Give its direction and distance from the school. 6. In what general direction does the water run? 7. Where is the nearest town or city? In what direction is it from your house? 8. Mention in proper order the different directions in which you have to walk in returning home from school by the streets or roads. 9. How many yards wide is the nearest road? 10. How many feet wide is this room? 11. How long is it? 12. How many windows are there on the south side of the schoolroom? How many feet wide is each window? 13. What is the length of the play-ground? 14. Name the directions of the lines which might be drawn between opposite corners of the schoolroom. 15. If the moon is rising just as the sun is setting, describe the direction of a straight line joining them. 16. What is the direction of a railroad which crosses at right angles a river running S.W.? 17. A ship was sailing south and was struck squarely on the left side by a steamer and sunk; in what direction was the steamer going?

LESSON III.

PICTURES AND MAPS.

1. Learning to make Maps.—Before you can know much about Geography you must learn to make maps and to understand what they mean; and before this lesson is over, we shall, I hope, be able to make a little map of our schoolroom upon the blackboard.

2. A Picture.—You all know what a picture is. If I were to show you a picture of this schoolroom, you know it would be *much smaller than the schoolroom itself*. You would expect the picture to look as the schoolroom would appear to a person standing in the

doorway, or at the back of the room. You would see before you three walls, the clock and the maps on the wall, and the seats and desks on the floor. And this



picture, as you know, would show the heights of the things in the room. Here, in your *Geography* is a picture of a schoolroom something like your own.

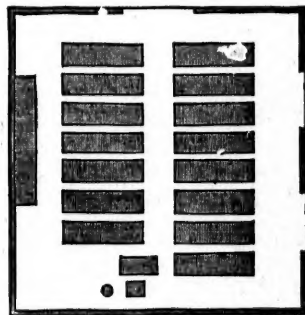
3. A Bird's-Eye View.—If, however, we were not standing on the floor, but were looking through an opening in the ceiling, straight down upon the floor and the desks, we should see the *tops* of things—the tops of the desks, the tops of the seats, and so on. What we should then see would have a very different appearance from the view we had from the doorway; and because it would look as a bird would see it if he were up in the air above us, and the roof were lifted off, this view would be called a *bird's-eye view*. And if this bird's-eye view were set correctly down upon paper, or upon a blackboard, so that the tops and edges of things were drawn, but not their heights, as in a picture, then this drawing would be called a *plan*, and not a picture.

4. A Map.—Now a *map* is a plan, or a sort of bird's-eye view, of a piece of country. It may be a large piece, or it may be a very small piece, of country, or it may be only so much as this very room covers. You see, now, that it is easier to draw a map than a picture; for in a map we do not have to mark the heights of things, but only their edges and their distances from each other. We must be very exact about directions and distances, since the usefulness of a map depends very greatly upon the exactness with which these are set down.

5. A Plan, or Map, of the Schoolroom.—

To make a map of our schoolroom we must first take our tape-line and measure the side of the room carefully. How many feet does the tape-line tell you it is? Very well, set that number down on the blackboard. Now let us see how many feet there are across the end of the room. Set that, too, down on the blackboard. But in our map on the blackboard we must represent the sides and the ends of the schoolroom by *lines much shorter than the sides and the ends themselves*; for, if not, our map would be too large. Suppose we draw a line for each side, as many *inches* long as there are *feet* in the side of the room. This is what I should intend you to do, if I should say, "*Use a scale of a foot to the inch.*" And if we make all our lines—such as the widths of the windows, the lengths of the desks, and so on—on this same scale of a foot to the inch, our map will be a true map, just as a photograph is a true view of a face, though it is on a smaller scale than the face itself. So, wherever we measure one foot in the room, we will represent that foot, in our map on the blackboard, by one inch. And now let us take the windows; how wide are they? how far apart are they? And now the door.

At last we have it drawn. There are the sides, and the ends, and here are the windows, all one foot to the inch; there is the door, also one foot to the inch. Now we have the floor of the schoolroom, but there is nothing on it. That will never do. We must have all the desks and the teacher's table and chair. Here, then, we put in the desks, one foot to the inch for length, and the same for breadth. The small oblong will represent the teacher's table; the square, the teacher's chair; and this little circle will do for the paper basket. This is the map of our schoolroom! Let us put N., E., S., and W. at the proper sides, to mark north, east, south, and west, and our map will be finished. You see it is very much like the map of the schoolroom in your *Geography*; only, that in the *Geography*, being in a book, has to be on a very much smaller scale than ours upon the blackboard.



Now take your slates, and see if you can draw this map over again, on the scale of four feet to the inch, instead of one foot to the inch. At the bottom of your map draw a line to show the scale, thus:—



Exercise.—1. Draw a plan of the teacher's table, two inches to the foot, showing three books upon it. 2. Draw a plan of a dinner-table with plates, large dishes, cups and saucers, etc., upon it. 3. Make a plan of a stable with four stalls for horses, a manger, a bin for oats, a door, and two windows. 4. Draw a plan of your church. Mark the seats, the pulpit, the doors, the windows, the lobby, and the stoves. 5. Draw a plan of your own house, showing the rooms, the halls, the stoves, the tables, sideboards, book-cases, beds, sofas, and chairs.

LESSON IV.

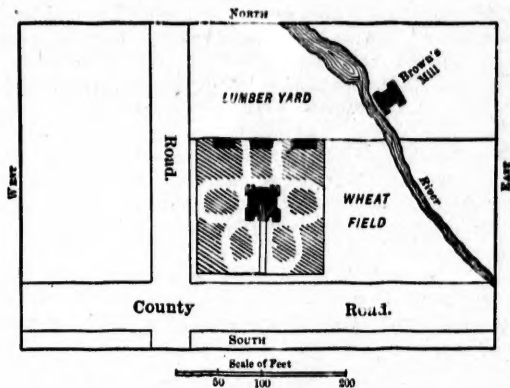
MAP-DRAWING.

1. A Map of the School-Grounds.—In the last lesson we began to learn how to make maps. Let us now extend our map-drawing to places beyond the school-room. Suppose we take our tape-line and get the measurements of the school-grounds; and after that is done, we shall have to mark the distances of things from one another, such as the sheds, the flower-beds, the pump, the trees, etc. We shall measure the widths of the paths, and also the width of the street, or road, which passes in front of the gate. We will appoint two pupils to hold the tape-line tight and even, two more to write down the measurements on their slates, and two others to make the map on the blackboard, after we come in. . .

And now we have the measurements on the two slates. The measurements are set down in feet. What is the next thing to be decided? *The scale.* That is right. Let us use several scales this time. One of the two pupils who are to make the map on the blackboard shall make it on a scale of four feet to the inch. But the other may draw the map on a scale of, say, eight feet to the inch. The rest of the class may use their slates, and draw their maps on a scale of sixteen feet to the inch. Be sure to use your rules carefully, and get your maps true to the scale. And when these maps are finished, we shall see that they are like three differ-

ent photographs of the same face, in this way,—they are all true copies of the one real thing, though they are of three different sizes; that is, as we say of maps, they are drawn on three different scales,

2. Importance of the Scale.—And now you begin to see why it is that, in looking at any map, in a book or on a wall, you must never forget to notice the scale which you will find marked at the bottom of the map. For on one map an inch may stand for a mile, while on another map it might stand for a hundred, or even a thousand miles. Here is a map showing a



schoolhouse and its grounds, and the places near by. Look at the line which you see marked at the bottom, and tell me what its scale is. Two hundred feet to the inch, you say. That is right. Now each of you may rule an inch at the foot of your map, and mark upon it the scale you have used.

3. Which side of the Map shall be North?—

There is one more thing to do before the maps are completed. You have made your maps just as the grounds lie. Now which side of your map stands for the north side of our school-grounds? Mark that side north. Maps are usually made *with the top for the north*. Now turn your slates, so that the north side shall be at the top. If the maps on the blackboard are not made with the top for the north, we shall have to make them over again, for we cannot turn the blackboard round. Now, when the top is north, which sides will be south, east, and west? Mark these directions upon your maps, and they will then be complete.

4. A still larger Map.—Do you think that now we can make a map of a farm divided into fields? You can easily mark the house, the barns, the stables, the orchard, the lane up through the middle of the farm, and a piece of woods at the back, with a creek running through it.

To the Teacher.—If your school is in a town or city, and some of the pupils are unacquainted with a farm, let them make a map of the streets and blocks in the immediate vicinity of the school, instead of a map of a farm.

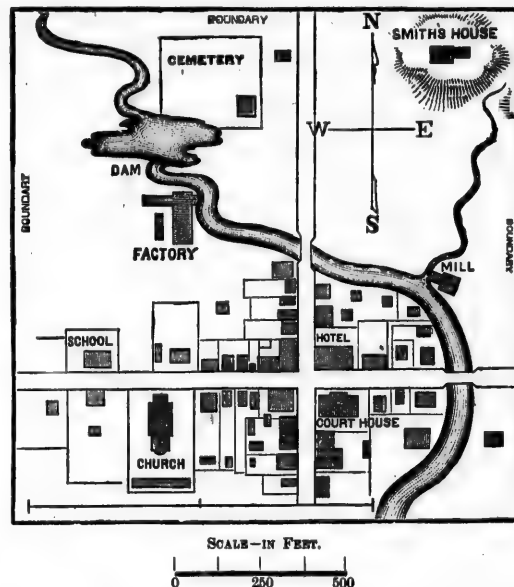
Exercise.—1. Name the principal roads or streets, nearest your home, which run east and west. 2. Name those which run north and south. 3. What is the direction of the road in front of the schoolhouse gate? 4. What is its width? 5. Are there any streams near the schoolhouse? In what general direction do they run? 6. Make a map of a garden. Mark the paths, flower-beds, trees, and shrubs. Put dots to represent the trees and shrubs. 7. Draw a map of two roads, or streets, crossing each other. Represent a house at one corner and two trees at another corner. Put in a crooked line to stand for a creek crossing one of the roads a little way from the corners. 8. State the direction of the nearest post-office from the school. Mark the position of both the school and post-office on the black-board, and indicate correctly the directions of the roads joining them. 9. What is the nearest railroad? Which way does it go? 10. How many miles distant is the nearest town or city? Represent the direct distance by a line, using a scale of two miles to the inch. 11. Make upon the blackboard a map which will show the schoolhouse, the city, and the railroad, in their proper positions, and the directions of the roads joining them. Use a scale of one mile to the inch. 12. Explain the difference between a picture and a map. 13. Which direction should the top of a map represent? Which the bottom? Which the right side? Which the left side? 14. If a map be laid upon the floor, what part of it should face the west? 15. If a map be hung on a wall, what direction does the upper part of the map represent? 16. If a fly is crawling up towards the top of a map upon a wall, is the fly travelling to the north?

LESSON V.

MAP-DRAWING.—Continued.

1. A Map of a Town.—Here we have a map of a small town. There is one main street going north and south, and another going east and west. You see that the river runs south-east, and that the factory lies to the north-west of the town. Now, *notice the scale.* One inch, you see, stands for 500 feet. Take a narrow piece of paper, and mark it off in inches very exactly, and use it to measure the distances on the map. You need not

measure by the roads, but straight across, "as the bird flies." Since one division of the paper measures 500 feet, we find, by applying the paper to the map, that Mr. Smith's house is about one thousand feet from the centre of the little town.

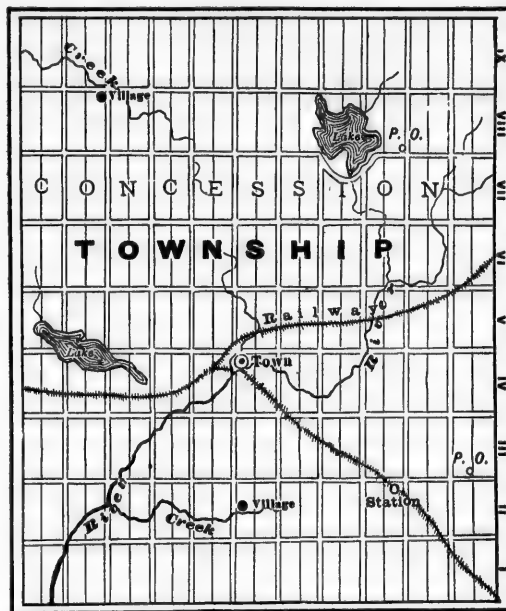


Exercise.—1. How far is it from the cross-roads to the factory? 2. In what direction is the school from the hotel? 3. In what direction is the court-house from the school? 4. In what direction is the mill from the court-house? 5. How far is the mill from the cemetery? 6. In what direction is the factory from the south boundary line? 7. How far do Mr. Smith's children have to walk to school by the road? 8. How far is it from the cross-roads to the north boundary line?

To the Teacher.—Help the pupils to make a map, similar to the above, of the village, or of the school section, in which they live. But if your school be in a large town or a city, let them make a map of as many of the blocks and streets in the vicinity of the school as you think they will be able to do well. Before entering upon the work of the next section, explain fully to the pupils what a township is.

2. A Map of a Township.—Most of our townships are bounded by straight lines. Many of our roads also are quite straight, and cross each other at right angles. Now, if you can find out the distances from corner to corner of the township in which you live, and then the number of roads running north and south, and also of those running east and west, I think you can make a map of it. You would first decide upon a scale.

One mile to the inch would be a good scale to use. Apply your scale, and lay down everything on your map as accurately as you can. Draw the boundary roads first, then the other roads. After the roads are all drawn, mark down what rivers, creeks, lakes, or ponds there may be, and the railroads, if there be any; also mark down as many schoolhouses, churches, mills, factories, foundries, hotels, etc., as you can. Probably there will be some places in the township which you have not visited; you may ask your friends about these.



SCALE—IN MILES.
0 1 2 3

Here is a specimen map of a township, which will guide you. Notice how the railroads are marked, also the common roads. In drawing your map avoid the crossing of lines where roads meet. You see that the rivers and creeks are marked by irregular wavy lines, thus:—
On your map mark villages with a full point (•); towns, with a larger point in a circle (◉); and cities, with a crossed square (⊠).

If you wish to mark a lake or part of a lake, you may represent the water by fine lines ruled parallel to the bottom of the map; or you may draw wavy lines round the borders, as you see in the map of the town-

ship. Ridges of hills may be shown by a series of crosses (xxxxxxx). Mountains are generally marked with a dotted line, which is afterwards fringed thus:—
The lettering should be neatly done, and you should write the names upon a clear space, as far as you can.

3. A County.—Most of you know that every township contains a number of school sections, and that a county is made up of several townships taken together.

Exercise.—1. In what county do you live? 2. How many townships does it contain? 3. Write down their names in order. 4. In what township do you live? 5. What railroads pass through your county? 6. What are the names of the towns in your county? 7. Which of them is the county-town? 8. What public buildings are there in that town? 9. Why is it called the county-town?

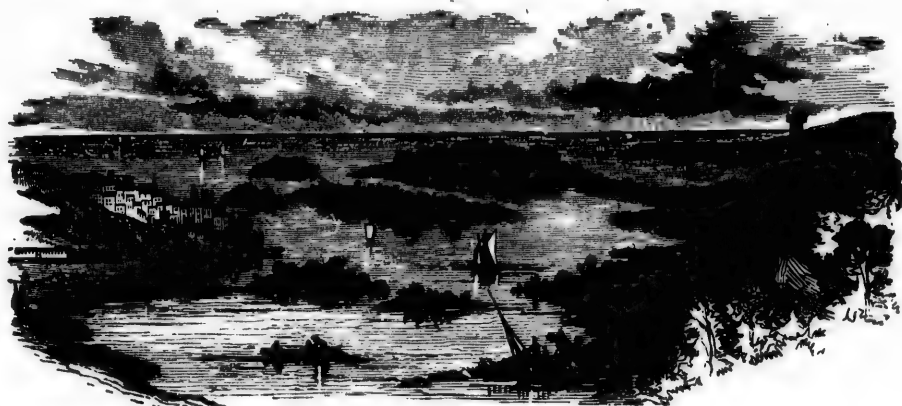
4. A Map of a County.—With the information that you now have concerning the county in which you live, and with a little help from your friends, you can easily draw a map of it. Try it; with the practice you have already had, you will succeed much better than you expect.

Preserve all your maps with care. You will take pleasure in looking at them years hence, as mementos of your happy school days.

LESSON VI.

A TALK ABOUT PRINTED MAPS.

1. A Map of a Large Country.—If you knew all the roads, towns, rivers, etc., of the next county, you could draw a map of it and join it, in proper position, to the map of your own county. You might, then, in the same way add the next county, and the next, until at last your small map would become a very large one; and would represent the whole province in which we live. This is, in fact, the way in which all large maps have to be made. Men who are called surveyors go out into the country and measure all the distances, just as you measured the schoolroom and the school-grounds. Then they sit down in their offices and represent all these distances upon a map. They mark the important places so as to represent their directions and distances from



one another. They use their scale very carefully, and when the map is at last finished, any person, who understands what the marks on a map mean, can study it and find out all about the roads, the rivers, the towns, etc., almost as well as if he were to travel over the whole country himself.

2. Meaning of Geographical Terms.—You must now learn how to study a map, so that you may be able to obtain from it as much information as possible in regard to places you have never seen.

You will all the time be using geographical terms, about many of which you have, perhaps, already learned something; but you must now learn to know them thoroughly. Let us see how much your present knowledge of geographical terms will help you in talking about the various forms of land and water.

Here is a picture. (You notice, do you not, that it is a picture, and not a map?) You see on the left a town built upon the shore of a harbor, upon which are two sail-boats. A railroad and a telegraph line connect the town with inland places. About the harbor there are five pieces of land surrounded by water. These, as you know, are *islands*. Two of the islands separate the harbor from a bay. On the bay is a row-boat going towards a high cliff. On the top of the cliff you see a lighthouse. You tell me that the narrow stretches of water between the islands themselves, and also those between the islands and the *mainland*, are called *straits*. That is right. You can count eight straits in the picture.

There is one piece of land almost surrounded by water. That is a *peninsula*, you say; and the narrow neck joining the peninsula to the mainland is an *isthmus*. On the other side of the peninsula, there is a ship at the mouth of another harbor, and near the ship you can see a *cape*, or *headland*, jutting out into the water. Beyond the harbors, and the peninsula, and the headland, lies some great lake or sea, or perhaps the wide ocean thousands of miles in breadth. The line where the sky and the earth appear to meet is called the *horizon*. In the picture, the horizon is where the sky and water meet. If you go to the top of a high hill, the sky and the earth will seem to meet on all sides of you, and you will find that the horizon is really a circle. In this picture we see only a small part of the horizon, and it is represented by a straight line.



Here is a picture of a volcano, or burning mountain. From the top of it flame, smoke, ashes, and melted rock, called *lava*, are sometimes thrown out. The opening at the top is called the *crater*, which means the

cup. This cup is sometimes half a mile, or even a mile wide. In the next picture are two cities on opposite sides of

4. The Railway Station.—We now come to the railway station, where we shall buy our tickets for the city. These long buildings near the station are the railway workshops, where cars and locomotives are repaired. Over there you see the round-house, in which engines are kept; and there, too, are the freight sheds and the grain warehouse. This extensive yard covered with iron tracks is used for cars and trains to run out upon, to make way for other trains to pass. Two railways cross one another here, and form a railway junction.

5. A Railway Train.—Yonder is our train standing on the track beside the platform. Look at the powerful engine, with its immense furnace and boiler. As you draw near, you can see how bright and clean everything about it is kept by the engineer and the fireman. Immediately behind the engine is the tender, which carries the coal or wood used on the engine. You see that the engines in the yard are of different sizes. They weigh from twenty to fifty tons each, and are each worth from ten thousand to thirty thousand dollars. Some of them can draw a train of forty live-stock and freight cars, filled with cattle and horses, sheep and pigs, grain, lumber, coal, iron, and general merchandise, and weighing in all from one thousand to two thousand tons. Or the train we are going to take, which is called a passenger train, there are, besides the engine and the tender, express and baggage cars; and here is the mail car, in which the mail clerk is busy sorting letters, papers, and parcels, and getting everything ready to receive and distribute the mail at the different stations as the train passes along. Besides these, there are first-class and second-class passenger coaches, and luxurious drawing-room and sleeping coaches. On some lines of railway there are also dining coaches attached to passenger trains. As these various coaches are worth from ten to fifteen thousand dollars each, you now have some idea of the cost of an ordinary railway train.

As we glide along the smooth rails, at a rate of from twenty to forty miles an hour, we cannot but wonder at the great skill of the men who invented this swift and comfortable mode of travelling, and at the enterprise of those who overcome all the difficulties that lie in the way of making a railway. Observe the high embankments, the long iron bridges spanning the valleys, the deep cuts and tunnels through the hills, and you will

more fully understand what is represented by the little lines on your map which you call railways.

Exercise.—1. Write out in your own words the meanings of the following geographical terms:—Lake, bay, inlet, harbor, sound, strait, channel, river, cataract, island, archipelago, isthmus, mountain. 2. Point out on the map of Ontario an illustration of each of the geographical terms mentioned in the previous question. 3. Make a list from your map of the large rivers and lakes that form boundaries to Ontario. 4. With the map before you, write out lists of the counties of Ontario that border upon—(1) Georgian Bay, (2) Lake Huron, (3) Lake Erie, (4) Lake Ontario, (5) River St. Lawrence, (6) River Ottawa. 5. Make a list of the counties that do not border upon any large lake or river. 6. What things ought one particularly to observe in travelling if one wishes to extend one's knowledge of geography? 7. What are the chief employments of the farmer? How does he make his living? 8. What is *agriculture*? 9. What are the chief employments of the people who live in towns? 10. How do mechanics, merchants, bankers, and other townspeople, make their living? 11. What is meant by *trade*? 12. What is meant by *manufacturing*? 13. Show how the people of the town are dependent upon the people of the country, and how the people of the country are dependent upon the people of the town. 14. Explain in your own words:—County-town, court-house, county-court, registry-office, judge, sheriff, councillors. 15. Of what use are railways?

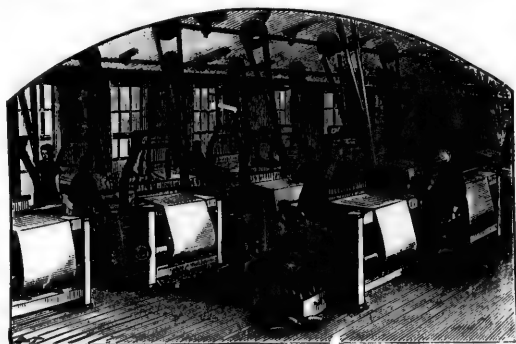
LESSON IX.

AN IMAGINARY JOURNEY—Continued.

1. A City.—At the end of our first trip by rail we find ourselves entering a city, where we shall spend a few hours. We alight from the train, and soon leave behind us the immense glass-covered depot, with its din of travellers from all parts of the country, and even from foreign lands. Out in the busy street we find a change—people are hurrying to and fro, boys on errands, ladies shopping, and men hastening to their places of business. Here, just ready to start, is a street car, which will take us along the principal streets and thoroughfares. You see that many of the streets are paved with blocks of wood, and that metal tracks are laid for the cars. Of those street lamps that you see, some are lighted by means of gas, and others by electricity. Those wires, strung along the tops of high posts and passing over houses, conduct the electricity, which lights the lamps and works the telegraph instruments, the telephones, and the fire-alarm system. From the miles of shops

and warehouses in sight, we can judge what a large number of people are here engaged in commercial life; and from the busy crowds going to and fro in all directions, we may form an estimate of the amount of business transacted.

2. Some Manufactories.—Let us now notice what the people of the city are doing. Many of them are engaged in making things that contribute to our welfare and happiness. That large building on our right is a cotton factory. The cotton comes to it in bales, and goes out from it in the form of cloth. The long room in which fifty people or more are busy, the hundreds of spindles twisting the cotton into thread, and the many looms with their shuttles dashing to and fro, weaving the thread into cloth, make a most wonderful sight.



INTERIOR OF A COTTON FACTORY.

In that long car-shop there are several hundred men at work; they are making railway cars and coaches, such as those we saw and rode in to-day. In that foundry, likewise, just beyond the car-shops, many men are employed; but these are making stoves of every kind. Up this street to the left, we shall come, first to a carriage factory, then to a sewing-machine factory, and next, to a large factory where men are manufacturing agricultural implements, such as reapers, threshers, gang-ploughs, etc.; and in those places yonder, where you see the tall smoke-stacks, steam-engines are made, and the heavy machinery used in mills. Here is an oil refinery, where the crude petroleum, as it comes from the earth, is purified and converted into the clear, refined oil that we use in our lamps. Up this street are an organ factory and a piano factory, side by side; and farther along we shall pass a large building in which all

kinds of furniture are made. But you will wonder more at what we shall see in this large printing and publishing house, to which we will pay a short visit. Here books and papers are printed. See the huge printing presses. Does it not seem strange that such large machines should be used to produce such fine and delicate work as the page of a book? Some of these presses cost as much as six or eight thousand dollars each.

It would take many days to examine minutely into the work that is going on all over the city; but you have seen enough to show you that the people are chiefly occupied with manufactures, or are engaged in mercantile pursuits.

3. Public Institutions.—In that large park-like enclosure upon our right, you see the Exhibition Buildings, where once a year a display is made of the things, the best of their kind, that the people from both the city and the country round can produce. Then all kinds of agricultural products may be seen there, machinery, pianos, handsome furniture, collections of the birds, insects, plants, and stones of the country, besides fruits and flowers, beautiful toys, and many other things. To know that their products will be compared with those of others, encourages people to take every pains to make them better and better year by year; and thus, you see, the exhibition does much good by improving all the products of the country. If you were to visit one of these exhibitions you would increase your knowledge of geography in a very pleasant way, and gain much information concerning the resources of your country.

If we had more time, you would take much pleasure in visiting some of the schools and colleges of the city, the hospitals, the many fine churches, the lunatic asylum, the blind asylum, the school for the deaf and dumb, and the free public library where the poorest people of the city may obtain any books they may wish to read.

4. Under the Streets.—"But why," you ask, "are those men digging a deep hole right in the middle of the street?" They are going to mend a water-pipe which runs under the roadway and brings water to all the houses of the city from a large reservoir outside of it, made like a small lake, and kept filled with water from some lake or spring farther away. Down under the streets are also the gas-pipes, and the large drains called sewers. How very different is all this busy hive of people from

the silent forest that stood here not many years ago! And how different it is, also, from the quiet farming district, and from the town that we saw this morning!

5. The Wharves.—As this city has a fine harbor, before we take the train again, let us go down to the wharves and docks, and look at the shipping. Here are many steamers and sailing vessels, some of them from a distant country. Here, too, are barges of lumber, which have been brought down the large river at your right. And yonder you see several fishing-smacks coming in. They are laden with fish caught in nets during the night. Out yonder are two yachts. The wharves here present as busy a scene as did the streets up in the city. The work of lading and unlading the vessels is constantly going on. You see that coal is being unshipped there; and here, boxes of oranges, casks of sugar, and bales of cotton; while yonder is a vessel being laden with wheat and barley for some distant port.

6. Names and Things.—And now that our visit to the city is over, and we are upon our journey homeward, you are thinking of the difference between the small circle on the map, which you call a city, and the city itself. We could not possibly picture the city, as it really is, upon the map, and so we set that little mark down to represent it. In the same way, we draw a wandering line to mark where a river runs, or a line of crosses to mark a range of hills; but you would learn very little of Geography if, when you see the marks and lines on your map, you did not always think of the real things which they stand for—the busy, stirring city; the winding, gliding river, bearing boats upon its waters; the lofty hills, which hide the sunset from our view. You are beginning to see that studying Geography means a great deal more than merely learning the names of things.

Exercise.—1. What is a city? 2. Make a list of as many cities of Ontario as you know of, and find them on the map. 3. What are the various principal occupations of the people who live in cities? 4. Write out a list of the principal manufactures found in Canadian cities. 5. Give some account of the telegraph system. 6. Give some account of the telephone. 7. How are letters and papers sent from one part of the country to another? 8. How are goods brought to us from foreign countries? 9. Give some account of the following public institutions:—a college, a hospital, an asylum, a gaol, an exhibition building.

LESSON X.

A SECOND JOURNEY.

To the Teacher.—Place the wall map of Ontario before the class and point out the places mentioned in the lesson. Supplement the text with further details, and draw from the pupils what they may have learned from their own observation. Encourage them to ask questions; in fact, let your teaching be as much as possible a continued conversation between yourself and your pupils.

1. Oil Wells.—To-day we shall make another imaginary journey. The first place we will visit shall be the oil district in the County of Lambton; and there you will see how the oil which we burn in our lamps is obtained from the earth. These oil wells are made by boring; and though some of them are five hundred feet deep, they are only a few inches in diameter. As soon



OIL WELL AND DERRICK.

as the oil is reached, iron tubing is let down, and the steam pump, which goes night and day, is set to work to pump up the crude oil, as it is called, from its deep home. As we approach we notice the derricks, or scaffolds, erected over each well. To the derricks are fastened windlasses and long ropes, by which the drilling tools and the iron tubing are lowered into the wells. You see that one steam-engine works the pumps of several wells at once. Everything around smells of petroleum, and the ground is soaked with it. Here is a new well that does not need a pump. It is a flowing well, from which the oil pours like water from a spring. Yonder a train of tank cars filled with crude oil, is starting off for an oil refinery like the one we saw in the city.

Sometimes there is an escape of natural gas from a well, and should it catch fire from lightning or by accident, there would be great danger of the men in attendance being burnt to death.

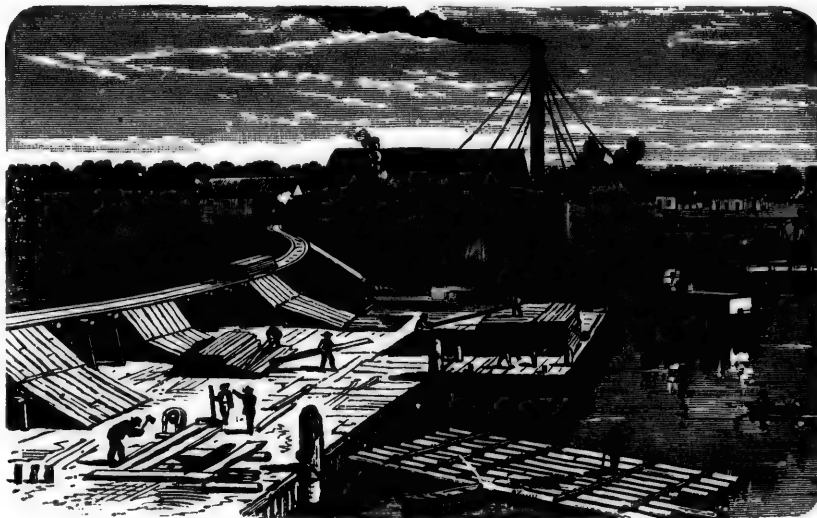
If you consider that, besides lamp oil, many other useful products come from this petroleum, or rock oil, such as vaseline, naphtha, and the paraffine from which candles are made, you will understand that these oil wells are very valuable to the people of this country. Our chief oil wells are at Petrolia and its neighborhood, and in Petrolia most of the crude oil is refined.

2. Salt Wells.—Next we visit Goderich—having made the journey from Petrolia by rail, through London and Clinton. In this town, and at Seaforth, at Clinton, at Blyth, and at Kincardine, are a number of salt wells. You see they are similar in appearance to the oil wells at Petrolia. There are derricks, and pipes for carrying away the brine, and steam pumps which bring it up from a depth of eleven or twelve hundred feet. The brine is poured into large evaporating pans, and boiled down, after which the salt is raked out from the bottom. These pans are so large that one of them alone will produce from a hundred to a hundred and fifty barrels of salt in a day, ten cords of wood being consumed in the process.

3. A Sail to a Lumber District.—Here at Goderich we can go aboard one of our large lake steamers and take a trip to a lumber region, where we may see for ourselves how the great pines of our forests are made into planks, boards, laths, shingles, and timber, for building houses and ships, and for other purposes.

Now we are out on Lake Huron! The land recedes almost from sight as we steam ahead. This lake is nearly three hundred miles long, and it is in one place

nearly two hundred miles broad; so, if we were in the middle of the lake, we might keep on sailing for a long time without coming in sight of land. See the white sails of the fishing-boats! The fishermen who are in them are catching whitefish and salmon trout. Our fisheries are very valuable, and produce for us a great deal of delicious food. Here is a large raft of timber coming down the lake. Do you see that it consists of thousands of logs securely lashed together, and that it is towed by a steam-tug, to which it is fastened by a strong cable? How slowly it seems to go! Those men who are on it appear to be



A LUMBER PORT.

enjoying an idle life in their little house, or hut. But if a great storm should arise, and the white-capped waves dash over their raft, they would be in great danger. Perhaps the cable by which they are made fast to the tug might snap, or even the lashings of the raft itself might break, and they would then be left to the mercy of the waves.

4. Saw-mills.—While we have been talking, and watching the scenery along the distant shores, and the white gulls flying around our vessel, we have sailed a long distance, and now you see we are approaching the north shore of the Georgian Bay. Away up there, in the north-west corner of the bay, is the little village of

Killarney, where live many of the fishermen whom we saw a little while ago in their boats. From the country on this north shore, as you will soon see, a great deal of our lumber comes.

Here we are on land again! As we walk away from the dock we hear the loud puffing of an engine, the merry whiz and ring of saws, and the general clatter of an immense saw-mill. Look at those thousands of logs in the bay and the river, confined by long timbers chained together, called booms. A man, there, is floating two logs forward to the elevator. At a signal from him, up they go into the mill! Observe how machinery, that men contrive, does hard work for them. See how, when one man touches a lever, the machinery seizes a great log and whisks it about as though it were a mere plaything. Now the large circular saws are stripping off the slabs; now the great gang-saw, with its dozen or more blades, is rushing through two logs at once, and in two or three minutes it has made them into boards. Close at hand, the lath machine and the shingle saws are turning the slabs and rough boards into materials for our houses. Notice the little horse-cars which are taking the lumber down to the water's edge, where men are loading large schooners with it. Some of those great stacks of lumber that you see piled yonder, are twenty-five feet high and half a mile long. You can now understand why lumbering is said to be one of the great occupations, or industries, of our country. We manufacture and sell millions of dollars' worth of lumber every year; and in its production thousands of men are employed. This north shore country is not the only important lumber district in Ontario: a great deal of lumber comes from the country along the Ottawa River, and much also is made around the lakes and branches of the Trent River. If we could visit any of these lumbering districts in winter, we should find men cutting down trees, sawing them into logs, hauling them to a lake or river, and piling them on the ice, or upon the bank. In the spring these logs are floated down through the small lakes and rivers, over timber slides in some places, until they reach a large river or lake; where they are either cut up at once into lumber, or made into rafts to be floated to Quebec or to some other distant place.

And now, as we are upon the homeward road of our imaginary journey, let us reflect how the lives of all these people differ from one another—the lumbermen, the men who work at the salt wells, those who work at the oil

wells, the people of the city, of the town, and of the quiet country.

To the Teacher.—The three preceding lessons were simply exemplifications of a method of developing in the pupils such a habit of observation as will be conducive to the obtaining of geographical knowledge. It is recommended that all lessons in the subject at this stage be conversational in form. (The part to be taken by the pupils has necessarily been omitted from the models here given.) In all these conversations the teacher should keep constantly in mind what things are to be aimed at in his teaching. The study of Geography (as understood in this text-book) has a very definite end in view—the study of the earth as an abode for man. Hence in studying a particular part of the earth, the first things to be learned are, its position on the earth's surface, and its physical features, since these greatly affect climate, soil, vegetation, animal life, and mineral wealth, and, hence, man's life, and everything that he does. Then next the climate and soil should be studied. Then what grows in the country, that is, its vegetation, and how far this is naturally useful to man, and how far it can be made so. Then the animal life of the country should be studied, since this affects the habits and industries of the inhabitants in many ways. For a similar reason the economic minerals should then be taken up. Then the people themselves should be studied, their character and habits; then what use they make of their natural advantages of position, climate, vegetation, animal life, and mineral wealth—in short, their occupations; then what great works they have built to increase the value of their natural advantages, such as railways, canals, telegraphs, and so on; and finally, what they are doing in establishing for themselves good systems of government, education, and religion. Very much more is, of course, comprised in the study of Geography, especially in regard to the laws which govern natural phenomena, but much of this must necessarily be left until the pupils can enter upon the *Advanced Geography*.

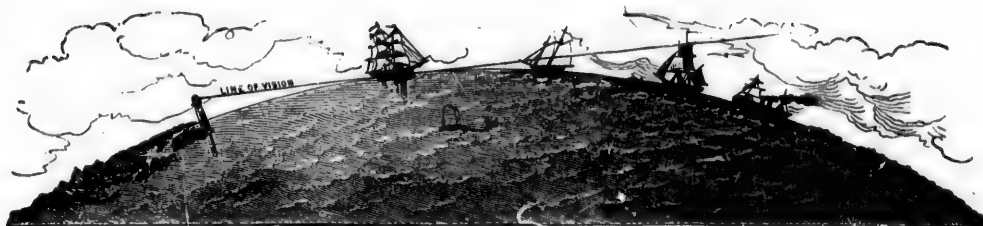
LESSON XI.

FORM AND SIZE OF THE EARTH.

1. **The Horizon.**—Wherever we are, if our view is unobstructed, the sky and land seem to meet before us. If we are on a wide, level plain, they seem to meet on all sides and form a circle about us, which, as we learned in Lesson VI., is called the *horizon*. If we are out on a wide lake, the sky and the water seem to meet in a well-defined circle, of which we are the centre. We also find, as we get upon the top of a high building, or climb a lofty tower, or ascend a high hill, that this circle grows larger and larger, and the horizon more and more distant, the higher we ascend; and if we were to go up in a balloon we should find the same thing.

Perhaps this will lead you to think that you could see the whole world at once, if you could but climb high enough. Let us examine into it, and see how that would be.

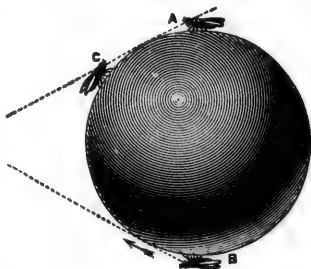
To the Teacher.—It is imperative that actual illustrations accompany this lesson. An apple or a ball may be substituted for the orange. The pupils should be required to draw diagrams of large size on the blackboard, to exemplify the statements of the text.



ROTUNDITY OF THE EARTH ILLUSTRATED.

FIRST EXPERIMENT.—Let us observe two flies walking about on the top of a smooth table. As we watch them, it is plain that each fly can see the whole of the other fly, as long as they keep upon the surface of the table. When they are near they will seem to each other to be of their usual size; but the further apart they go the smaller will they seem to each other to be; still, wherever either fly goes on the top of the table, the other can see the whole of his body; and this would be true, no matter how large the table might be.

SECOND EXPERIMENT.—Now we will take an orange and lay it on the table, and suppose the two flies to light on it, one at A, and the other at B. The lines in the picture show the directions in which they can look. Each line is called the line of vision. While they remain in these positions, the flies cannot possibly see each other, for the whole orange is between them. But let B creep slowly round to the point C, which is just on A's line of vision. A can now see the top of B's head, but B's body is still hidden from A by the curve of that part of the orange that lies between them. When B comes up still nearer, A will see more and more of him, and B will see more and more of A, until at length they will be in full sight of each other.



2. The Earth is round like the Orange.—Now see whether you can find anything like this in what I am next going to tell you; only, instead of thinking of

little things like the surface of the orange and two flies, you must think of the wide surface of the earth and large objects like men and ships. If, upon a very clear day, you were watching for a ship coming home across the lake or the ocean, you would not see the whole ship at once; you would first notice a tiny speck—this would be the top-mast of the ship—then this speck would grow larger and the upper parts of the sails would appear; then more and more of the sails, then the upper part of the hull, and at last, the whole ship would be in sight. Now which do you think this is most like—our first experiment with the flat table or our second experiment with the orange? "The second," you all say, after thinking for a moment. And it is nothing else than the curved part of the earth that would hide the lower part of the ship from our sight until she had sailed round it; just as it was the curved part of the orange that hid the little fly B's body from his friend A. And this tells us that the surface of the land and water must be curved. People in every part of the world observe that ships always come into sight in this way, no matter from what direction they are coming; and this proves that the earth must be curved in every part, and so must be round like the orange,—not round like a fifty-cent piece, nor round like a large roller.

3. What Magellan did.—More than three hundred years ago Magellan sailed round the world; and since his time hundreds of ships have done the same thing. If we chose to take the journey ourselves we could now make it in about three months; and when we had gone completely round the world we should have travelled about 25,000 miles. Of course, no one has ever been able to make a hole completely through the earth; but by calculation it has been found that the diameter of the earth is nearly 8,000 miles. If a well were dug

down to the centre of the earth it would be 4,000 miles deep, or about twelve times the distance between Montreal and Toronto.

To the Teacher.—Whenever experiments or illustrations are necessary, do not be content with making them and explaining them yourself; endeavor always to get the pupils also to make them, and to explain them to one another. At each step in the work test their knowledge with suitable questions.

Exercise.—1. What is the horizon? 2. How can you increase your horizon? 3. Describe our first experiment. What does it show? 4. Draw on the blackboard a representation of our second experiment, and explain it in your own words. 5. Describe how a ship would come into our sight in sailing towards us across the sea. 6. What reason, then, have you for thinking that the world is round? 7. Why do you think the world is round like a ball, and not round like a large roller? 8. If the earth is round like an orange, why does it appear to us to be flat? 9. How long would it take a railway train to travel round the earth's circumference, running night and day at the rate of twenty-five miles an hour? 10. If the earth were perfectly flat, when the sun rises it would make morning for all parts of the world at the same time: can you show, with a lamp and a table, that this statement is true?

LESSON XII.

DAY AND NIGHT.—LINES ON THE GLOBE.

1. Day and Night.—FIRST EXPERIMENT.—Since we have found out that the immense globe on which we live is round like an orange, in the experiment which we shall now make we will take an orange to represent it. Let us put a knitting needle through the centre of the orange, so that one end comes out at its stem, and the other at the point opposite the stem; and let us put one end of the needle into a large, heavy pincushion, to hold the orange firm and steady in the air. We will stick a common pin into the orange to represent a man on the earth, pushing the pin in so far that its head rests upon the surface. Then let us carry orange, cushion, and all, into a dark room, (or else darken this room); and let us get a lighted lamp, which we will take to represent the sun.

We are ready to begin. Now watch closely, and remember what you see. As I take hold of the top of the needle and twist it slowly around, you observe two things:—(1) Only one-half of the orange is lighted at a time by the lamp, which stands on the table. I may turn it so as to bring a dark part into the light, but as soon as I do this, just as much of the light part goes

into the darkness on the other side; so that, no matter how I manage, I cannot get more than one-half into the light at once. (2) The two points through which the needle passes do not move. These two points are called the *poles*. The line joining these points, or poles, along which the needle passes, and round which the orange turns, is called the *axis*. Now, with a piece of chalk I will draw a circle round the orange, exactly midway between the poles. This circle may be called the *equator* of the orange; and if the orange were cut in two there, both parts would be exactly equal. Let us



put the pin, which represents our man, near the equator, and facing the lamp, which represents the sun.

I now twist the orange slowly through a quarter of a circle. This brings the pin to the line where the light ceases to shine upon the orange. This line which divides the dark half of the orange from the light half is called the *circle of illumination*. A slight turn more sends the pin into the dark. Turn on, until it has gone another quarter of the circle. The pin is now in the middle of the dark half of the orange; that is, of the dark *hemisphere*, as it is called, since "hemisphere" means half a sphere, or half of anything round like an orange. Again I twist the orange through a quarter of the circle, and the pin is just coming into light again, at the circle of illumination. Another quarter's turn brings the pin back to the point of starting, and the lamp is again shining directly upon it, as at first.

SECOND EXPERIMENT.—We will now repeat this experiment with the school globe, which we will suspend by a string. We will make a dot for the man, and draw a line for the equator. You see, do you not, that it is the spinning of the globe before the lamp that brings light and darkness to every part of it in succession?

2. The Earth turning on its Axis.—Now let us fancy that the little orange expands into a huge globe the size of our earth, 25,000 miles in circumference; let us imagine that the feeble lamp grows into our great and dazzling sun, millions of miles away. In place of the pin, let us think of ourselves standing upon our huge globe; and then, as this globe turns round and round on its axis, 8,000 miles long, you can understand how we regularly pass through times of light and darkness in succession. These times are what we call day and night. The earth spins round its axis once every twenty-four hours, while the sun shines steadily in the sky. There is a bright side and a dark side of the earth all the time. If the earth were to stand still for a week, one side of the world would have daylight for a week, and for a whole week the other side would have night. But this the earth never does. It keeps constantly turning, and so we have day and night with the utmost regularity.

3. Imaginary Lines.—But you must not suppose that there is any great rod round which the earth turns, as the orange turns round the needle. The axis of the earth is only an imaginary line, and its equator is also an imaginary line. The poles, which are at the ends of the axis, are points, and cannot be actually seen. We speak of them as the *north pole* and the *south pole*; and the hemisphere in which the north pole is, we call the *northern hemisphere*, and that in which the south pole is, we call the *southern hemisphere*.

4. Which way does the Earth turn?—We now know that the earth must turn at the rate of 25,000 miles in twenty-four hours; that is, any place on its equator is moving at that rate, or faster than 1,000 miles in one hour, or about seventeen times as fast as our swiftest railway trains, since these travel at a rate of only sixty miles an hour. Now, when we are on a fast railway train, the trees and houses and telegraph poles all seem to be running past us in the opposite direction to that in which our train is going, although we know that they are quite still and it is really only ourselves and the train that move. Just in the same way the sun seems to us to be travelling from east to west, while it is really our earth which is constantly turning round in the other direction from west to east. And for the very same reason the moon and all the stars seem to us to move from east to west, while in reality it is we who are moving in the opposite direction.

5. The Earth also revolves round the Sun.—The earth has another motion besides that round its axis. It also revolves once a year round the sun; and this revolution, and the fact that the axis of the earth is inclined to the plane in which the earth moves, are the causes of the four seasons of our year—spring, summer, autumn, winter. But this is too hard for you to understand just now. You will be able to understand it more easily when you study the *Advanced Geography*.

To the Teacher.—It will not be amiss, however, at this stage, for you to give the pupils some idea of the revolution of the earth around the sun. Suspend from your hand, by a string, a ball or globe, representing the earth. Turn it slowly with your fingers, and move it around a lamp representing the sun. Or put a wooden ball, representing the sun, in a large tub of water, and let a smaller ball, representing the earth, be made to move around it. This may be done by a string attached to the smaller ball. In similar ways the motion of the moon about the earth may be roughly illustrated. By a little ingenuity the two motions may be shown together.

Exercise.—1. Describe the first experiment in this lesson. 2. In this experiment what is meant by (1) the axis, (2) the poles, (3) the equator, (4) the dark hemisphere, (5) the light hemisphere, (6) the circle of illumination? 3. In the experiment, when does the light of the lamp first begin to shine upon the pin? When does it just cease to shine? 4. With respect to the earth and the sun, what does the lamp represent? What does the orange represent? What does the knitting needle represent? What does the dark hemisphere of the experiment represent? What does the light hemisphere represent? 5. Show by the second experiment how it is that we have morning, full day, evening, and night, in regular succession? 6. What is meant by the earth's equator? 7. What is meant by the earth's northern hemisphere? What is meant by the earth's southern hemisphere? In which of the earth's hemispheres are we? 8. With regard to day and night, what would happen if the earth should cease to turn round its axis? What would happen if it should turn twice as rapidly, or twice as slowly, as it really does? What would happen if it should turn the other way? 9. If the earth were to stand still, how might day and night be caused? Illustrate your answer by means of a lamp and a globe. 10. Why is it that the sun and stars seem to move round the world from east to west, when in reality it is the earth that moves from west to east?

LESSON XIII.

ZONES—CONTINENTS—OCEANS.

1. Why some parts of the World are hotter than other parts.

To the Teacher.—The explanation of this is too difficult for the pupils to understand, without considerable painstaking on your part. You may help them to understand it, by using a lamp and an orange, as in the last lesson; a candle and a large pumpkin would be even better. Your explanation should be something similar to that which follows in the succeeding paragraph. If you desire to show why it is that rays of light falling directly upon a surface have more effect than when they fall slantingly, you may use the explanation and diagram found on page 31 of the *Advanced Geography*.

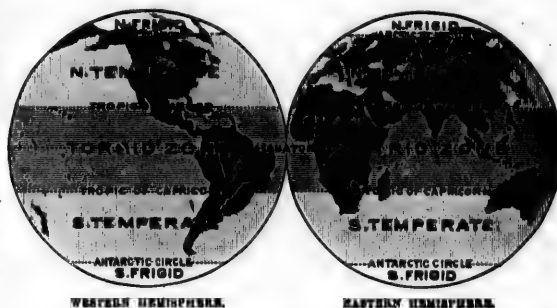
"We have still something more to learn from the orange and the lamp as we had them fixed for our last experiment. We will stick the pin into the orange at the equator, so that the light from the lamp will fall directly upon its head. We may say it is noonday for the pin. Now turn the orange on its axis till the pin is just passing the circle of illumination and entering into darkness. It is now evening, or sunset, for the pin. We will take a string and hold it, stretched tight, with one end at the lamp and the other end at the pin. The string represents the paths of the rays of light and heat coming from the lamp to the pin, and at the pin they are parallel to the surface of the orange. Similarly, if we turn the orange round so that the pin is at its morning, or sunrise, the rays from the lamp would again be parallel to the surface of the orange. But wherever on the equator the pin may be, between its sunrise and sunset the rays of light will fall slantingly upon it, except at its noon, when the rays always fall directly upon it. Now you know that at noon the heat is greatest, that in the morning and evening it is least, and that at any time between noon and morning, or between noon and evening, it is not so great as at noon, but yet greater than at morning or evening. So you perceive that when the sun's rays fall directly upon the earth they cause more heat than when they fall slantingly, and they cause least heat of all when they fall so as to be parallel with the surface of the earth. Now if you place the pin anywhere else on the orange than at the equator, you will see (especially if you apply the string) that the rays from the lamp always fall slantingly upon the pin, though more directly at its noon than at any other time; so that no matter whereabouts on the earth one may be, noon is, as a rule, the hottest part of the day. And the farther north or south the pin is put, the more and more slantingly do the rays from the lamp fall upon it, even at its noon; and so, likewise, the farther north or south from the equator we ourselves may be, the more slantingly do the sun's rays fall upon us, even at noon, and therefore the cooler will our days be. Finally, if the pin be put at either of the poles the rays which it receives from the lamp fall parallel to the surface all the time. So that at the poles, we may say, it is always very cold, for the sun's rays always fall very slantingly there. Hence it is that the countries about the equator, where the sun shines almost straight down at noon, are the hottest parts of the world; that the countries about the poles, where the sun's rays are always very slanting, are the coldest parts of the world; and that the countries mid-way between the equator and the poles, where the sun's rays at noon fall neither directly nor very slantingly, are not, as a rule, either very hot or very cold."

2. The Five Zones.—The hot district, which lies along both sides of the equator, is called the *Torrid Zone*, that is, the *hot belt*, for "torrid" means hot, or burning, and "zone" means belt, or girdle. The cold parts around the poles are called the North and the South *Frigid Zones*,—"frigid" meaning frozen. The two districts which lie between the torrid zone and the frigid zones, as they are neither very hot nor very cold, are called the North and South *Temperate Zones*. The diagram will help you to understand the positions of these zones. The zones, in a general way, divide the surface of the earth into five great climate divisions, which differ very widely in their temperatures, their animals, and their vegetables. We shall study the climates of the zones in a separate lesson by-and-by.

3. The Hemispheres.—Let us look again at the orange. You know that only half of it at one time can be lighted by the lamp. Notice, too, that, try as you

may, you can see only one-half of the orange at once. To see the whole surface at one view we must divide the orange into two hemispheres. Let us do so. If now we lay the flat surfaces on the table we can see the whole surface of the orange. The immense globe on which we live, cannot, of course, be actually divided in this way; but we can imagine, from this illustration, what it would be like, if it were so divided.

To the Teacher.—The picture below represents the world divided into hemispheres and zones, the zones being distinguished by differences of light and shade. The similarity of this flat representation of the earth to the appearance of the school globe when so placed that the eye sees first one hemisphere and then the other should be clearly brought within the comprehension of the pupils. In like manner, the maps of the two hemispheres in the *Geography* should be compared with the school globe. The names of the hemispheres should be taught, the positions of the zones should be noted, and their names, and the names of their limiting circles, should be taught.



4. Land and Water. Continents and Oceans.—Now we must make a careful study of the school globe, and also of the maps of the two hemispheres in our *Geography*, and see what the earth's surface is composed of,—whether mostly of land, or mostly of water; and how the water and the land divide one another into great natural divisions; and we must also learn what names have been given to those divisions.

To the Teacher.—The pupils (who by this time should have learned to distinguish land and water on the maps and on the globe) should now be led to observe the distribution of land and water on the earth's surface; how much the water exceeds the land on the whole; how much the land of the eastern hemisphere exceeds the land of the western hemisphere; and how much the land of the northern hemisphere exceeds the land of the southern hemisphere. They should then be led to observe that there are two great masses of land (North and South America in the one hemisphere, and Europe, Asia, and Africa, in the other), and moreover, that there is one smaller mass (Australia). And then by a study of the map they should see how these masses are naturally subdivided into the so-called *grand divisions*, or *continents*, of the earth, and then they should learn their names—NORTH AMERICA, SOUTH AMERICA, EUROPE, ASIA, AFRICA, and (for the present) AUSTRALIA. The "region of many islands," between Asia and Australia, and America, or POLYNESIA, should also be observed. When all this has been done, the great water subdivisions, or *oceans*, should be observed, and their names learned—namely, the ATLANTIC, the PACIFIC, the INDIAN, the ARCTIC, and the ANTARCTIC.

Then should be noted the relative positions of these oceans—in regard to one another, to the various continents, and to the various zones. The relative sizes of the continents and oceans should also be observed.—As far as possible all this knowledge should be gained by the pupils from their personal observation and study of the school globe, and of the maps of the hemispheres; but the teacher should see that the knowledge is systematically obtained, and is complete and accurate.

Exercise.—1. When do the sun's rays seem hottest—when they fall almost directly upon our heads, as at noon-day? or when they fall slantingly upon us, as in the evening or in the morning? 2. Point out on the school globe the parts of the earth in which the sun's rays are always very direct at noon-day. What name is given to these parts?

Why are they so called? 3. Point out on the globe those parts of the earth in which the sun's rays always fall very slantingly upon the surface, even at noon-day? What names are given to these parts?

Why are they so called?

4. Point out on the globe the *Temperate Zones*, and explain why they are so called.

5. Draw a diagram of the hemispheres, and draw the boundaries of the zones; then write in the names of the zones and of the boundaries.

6. Give the boundaries of each of the continents; that is, tell the names of the oceans that wash its shores, or of the other continents adjoining it. 7. Examine the school globe, and give, as well as you can, the boundaries of each of the oceans. 8. Examine the globe, and say which you think is the largest of the continents, and which is the smallest.

Similarly, which is the largest of the oceans, and which is the smallest? 9. Find on the globe the position of Canada, and say in what continent it is. 10. From the globe ascertain what oceans wash the shores of Canada. 11. From the globe ascertain in what zone the greater part of North America is. In what zone is the remainder? 12. From the globe ascertain in what zone the greater part of Canada is. 13. Ascertain from the globe where the first meridian is. Then find out between what meridians Canada lies; also to what parallel of latitude Canada extends. 14. Find on the globe the position of Ontario, and say in what continent, and in what zone, it is. 15. Find on the globe the position of London, England, and place the globe so that London is directly under your eye: about what portion of the land surface of the globe do you see?



LESSON XIV.

CLIMATES—VEGETABLE AND ANIMAL ZONES.

1. How Plants mark off Climates.—We learned in our last lesson that the amount of heat which any part of the earth gets from the sun depends very much upon the direction of the rays falling upon it. The parts of the earth that get the most direct rays of the sunlight are the hottest; those that get slanting rays

are only moderately heated; while those that get rays so slanting that the sunbeams are nearly level with the ground, are quite cold. We

saw that these parts were separated by imaginary

lines into five zones, or climate divisions.

But these imaginary lines correspond to no real things upon the earth. The plants, however, that grow upon the earth's surface mark off real divisions of climate. Thus, peach trees cannot endure more than a certain degree of cold. The line

formed by the most

northerly peach trees marks,

therefore, a real climate division, and you will find that this

line passes across Ontario. Similarly,

if we go further south, and travel along

the edge of the most northern orange groves, we shall be tracing another climate division across the continent; and so on, for many other trees and plants. These real lines are not straight, but they correspond nearly to imaginary lines drawn parallel to the equator.

To the Teacher.—It is highly important that you should interest the class in natural history by means of familiar conversations. Make use of their own observation and reading. Get them to tell what they know about the plants and animals mentioned in the text. Encourage them to ask questions; and supplement their knowledge by graphic descriptions of your own, and by pictures, specimens, and appropriate readings. Propose suitable questions to be answered by them at a subsequent lesson.

2. Each Zone has its own peculiar Plants and Trees.—If we know what plants and trees grow in a certain part of the world, we can tell what its climate is like, for we know that these plants and trees need a certain amount of warmth to bring them to perfection. And, similarly, if the climate of some place is described to us, we can infer what sorts of plants and trees grow there. This picture (*see page 22*) shows some of the principal vegetable products of the various zones.

3. What Grows in the Torrid Zone.—In the hot climate of the torrid zone we find that only such vegetation thrives as requires a great amount of heat, like the flowers that we grow in our hot-houses. In it flourish the plants and trees from which come our finer spices, such as ginger, vanilla, pepper, nutmegs, cinnamon, and cloves. In it, also, grow to perfection some fine fruit-bearing trees, as the date-palm, the cocoanut tree, and the bread-fruit tree. In its forests are found many valuable woods, such as teak, mahogany, sandalwood, rose-wood, and bamboo; and many very large trees, as the banyan, and the baobab. In the torrid zone are also found many other useful plants and trees, as the tapioca plant, the rubber tree, and the sago-palm.

4. What Grows in the Temperate Zones.—In the warmer parts of the temperate zones we find the olive, the orange, the lemon, the banana, the rice plant, the sugar-cane, the tea plant, the cotton plant, the raisin grape, the currant grape, the mulberry tree, and the cork tree. Many of these also grow in the torrid zone. In these parts, also, we find the wine grape, the tobacco plant, the peach tree, and the maize plant. In the colder parts of the temperate zones we find magnificent forests of oak, elm, maple, and pine. In the cultivated fields are grown such grains as wheat, peas, barley, rye, and oats. In the orchards are found apples, pears, plums, and cherries.

5. What Grows in the Frigid Zones.—As we pass on still farther towards the frigid zones, the trees gradually disappear,—stunted birches, blue beech, and alders being the last, and these dwarfed to mere shrubs. The grass is gradually replaced by mosses and lichens; and at length, as we approach the poles, we come to a barren, frozen desert, where scarcely a trace of vegetable life can be found. Thus you perceive that the vegetation of the world marks off climates very accurately.

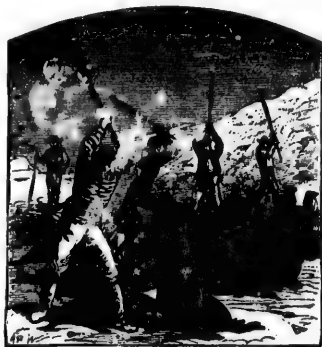
6. How Animals mark off Climates.—Animals depend very much upon plants for their food, and they can live only where those kinds of plants that are suited to them abound. The animals of the zones vary, therefore, nearly as much as does the vegetation of the zones. But as animals can move from place to place, you will easily understand that the boundaries of their homes cannot be so definite as those of the homes of plants. The picture shows some of the animals of the various zones.

7. Animals of the Hot Climates.—In the torrid zone we find some very large animals with thick leathery skins, such as the elephant, the rhinoceros, the hippopotamus, and the tapir. Here, also, are some of the largest beasts of prey—the lion, the tiger, the panther, the leopard, the jaguar, and the hyena. Here, too, we find some of the largest birds in the world—the ostrich, the emu, the cassowary, and the condor; and also some very beautiful birds, such as the lyre-bird, the bird of paradise, and many kind of parrots. In these regions formidable reptiles and insects are exceedingly numerous, such as the alligator, the boa-constrictor, and the python, and many kinds of immense lizards, great frogs, monster spiders, and poisonous flies. In hot climates, too, we find many kinds of apes (including the gorilla, the chimpanzee, and the baboon), and other very wonderful animals, such as the camel, the giraffe, and the zebra.

8. Animals of the Temperate Climates.—In the temperate climates, the more common domestic animals are found in greatest perfection, such as the horse, the ox, the sheep, and the goat; and these are often found also in a wild state. Many kinds of deer, and of bears, wolves, and foxes, are also found. Among the more remarkable animals are the kangaroo and the yak, and our own bison and moose-deer. In the colder parts of the temperate regions are found fine fur-bearing animals—as the mink, the otter, and the marten.

9. Animals of the Cold Climates.—In the polar regions, as they are called, live many of the fur-bearing animals found in the colder temperate climates, as well as many others, valuable for their furs or skins, or for the oil or other products which they supply. Among these are the whale, the seal, and the walrus; the reindeer, the arctic fox, and the polar bear. The seas teem with fish; and large birds, such as the eider-duck and the penguin, supply both food and clothing for man.

If you reflect a moment, you will perceive that men must depend upon plants and animals for all their food and clothing, and for most of the materials out of which they make huts, tents, and houses for shelter. You can therefore understand that the food, clothing, and occupations of the people in the world depend very much on the plants and animals of the climates in which they live.



KILLING FUR-BEARING SEALS.

Exercise.—1. Show how the growth of plants and trees may indicate differences of climate. Do you know of any plants or trees that will grow in southern parts of Ontario, and will not grow in more northern parts? **2.** Give some reasons why the plants and trees of one part of the world may differ very much from the plants and trees of another part. Illustrate your answer by as many examples as you can. **3.** Give some reasons why the animals of one part of the world may differ from the animals of another part. **4.** Show how the occupations of men depend very much upon the plants and trees which will thrive in the country in which they live. Illustrate your answer by as many examples as you can. **5.** Show how the occupations of the inhabitants of a country depend somewhat on the animals which will live in that country. Illustrate by examples. **6.** Make out as large a list as you can of the useful timber trees of Ontario, and state the uses to which they are put. Do the same for the useful fruit trees, grains, grasses, roots, and plants of Ontario. **7.** Make out a list of the useful animals of Ontario (both wild and domestic), and describe what uses are made of them. **8.** Make out a list of vegetable and animal products in common use, which the people of Ontario must obtain abroad.

LESSON XV.

LATITUDE AND LONGITUDE.

1. To denote the position of a place.—Let us now learn a little more about direction and distance. I stick a pin into this ball, and ask you "Whereabouts on the ball is the pin?" You can easily point out its position, but you find a difficulty in expressing its position in words. And why? Because the surface of the ball is all alike, and you have no fixed place on it to

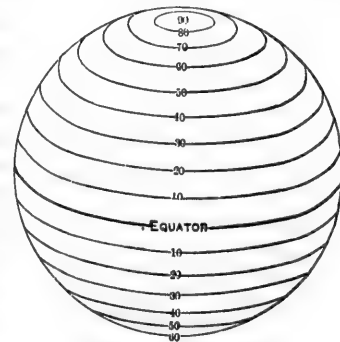
which you can refer. I next stick a pin into the orange, with its equator plainly marked, and with two pins marking its poles. You can now say that the pin is north of the equator. This is somewhat better, but you still have no fixed line from which you can denote its distance to the east or west. Now geographers have agreed on a very good plan for indicating the exact position of any place on any part of the round world. An illustration will make this plan easily understood.

ILLUSTRATION.—Let us take the orange with the equator marked upon it, and the two pins stuck in to represent the poles. Notice that the distance from the equator to either of the poles is one-quarter of the circle of the orange. Now this distance must be 90 *degrees*, because the whole of any circle contains 360 equal parts, called *degrees*. You must not think that degrees are always of the same size. The degrees of the circle of a dinner plate would be larger degrees than those in the circumference of the orange; and the degrees of a barrel-hoop would be greater still; but yet every circle, great or small, contains 360 great or small degrees.

Now we will divide this quarter-circle of 90° into nine equal parts, by sticking in, between the equator and the pole, a row of eight pins at equal distances from one another. Tell me now how far apart the pins are. "Ten degrees," you say. Now I will very carefully draw through these eight points eight circles parallel to the equator, like the lines 10, 20, 30, etc., in the diagram.

2. Parallels of Latitude.—These lines which are drawn from east to west, parallel to the equator, are called *parallels of latitude*. They enable

us to tell how far north or south a place is from the equator. Thus, the upper 10 in the diagram is 10° north of the equator, and we say of all places on this circle that they are in 10° north latitude. I have now divided the quarter-



PARALLELS OF LATITUDE.

circle between the equator and the south pole into nine equal parts, and the circles which I have drawn through

into the orange,
with two pins
that the pin is
better, but you
can denote its
geographers have
the exact posi-
ound world. An
understood.

age with the equa-
stuck in to repre-
from the equator
the circle of the
0 degrees, because
equal parts, called
degrees are always
circle of a dinner
se in the circum-
s of a barrel-hoop
y circle, great or
rees.

of 90° into nine
e equator and the
stances from one
e pins are. "Ten
y carefully draw
es parallel to the
in the diagram.

se lines which are
the equator, are

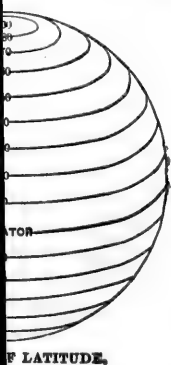


FIG. 1. PARALLELS OF LATITUDE.

th pole into nine
e drawn through

these points are likewise parallels of latitude, and are ten degrees apart. The lower line marked 30 is 30° south of the equator, and all places on this circle are 30° south of the equator, and are in 30° south latitude. The north pole is in 90° north latitude, the south pole is in 90° south latitude, and the equator is marked 0°, for it is neither north nor south of itself. Thus parallels of latitude enable us to denote distance and direction, north and south.

3. Meridians of Longitude.—We still have to learn some way of denoting distance and direction east

and west. Every circle contains 360°. Then the equator contains 360°, or 36 equal parts of ten degrees each. Let us divide these parts off with 36 pins. Now let us carefully draw an even line between the north pole and the head of each of these 36 pins. Let

us next draw similar lines between the south pole and the pins. *These lines which are drawn through the poles at right angles to the equator are called meridians of longitude.* They enable us to indicate the distances of places, east and west. We fix upon one of these meridians as the starting place, and call that the first meridian. Any one of them would do for the first meridian, but astronomers and geographers have agreed to call *that meridian which passes through Greenwich, England, the first meridian.* In the diagram the darker line 0 represents the first meridian. The rest of the meridians are numbered each way, east and west, till, on the opposite side of the globe, 180° east longitude is the same as 180° west longitude. The first meridian is neither east nor west of itself, and is therefore marked 0°, just as the equator was said to be 0° of latitude. In the diagram the line 100 is 100° west of the first meridian, and all places on that line north and south of the equator are in 100° west longitude. In the same way all places on 20 to the right of the first meridian are in 20° east longitude.

4. Latitude and Longitude on a Map.—When you look at a map and see lines running across it, east

5

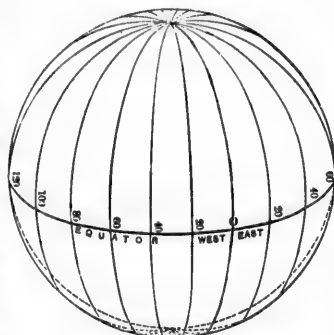


FIG. 2. MERIDIANS OF LONGITUDE.

and west, you will now know that they are parallels of latitude, and that the other lines which run up and down the map, north and south, are meridians of longitude. The degrees of latitude are numbered at each side of the map, and the degrees of longitude at the top and bottom of the map. In a map of a small country the meridian lines seem to be parallel; but in a map of a large country, or of a hemisphere, these lines are not parallel, but approach one another near the north pole; and so, also, near the south pole. This corresponds to their appearance as we draw them on the orange.

To the Teacher.—See that the pupils thoroughly understand what latitude and longitude mean. Take the large wall-map of Ontario and ask them to find out the latitude and longitude of places, also to find places having a given latitude and longitude. Use the large school globe in a similar way. Also practice them in finding out places having the same latitude, and other places having the same longitude. Compare the use of latitude and longitude to denote the positions of places on the earth's surface, with the naming of streets and the numbering of houses in a town or city, and the numbering of concessions and lots in a township.

Exercise.—1. Denote the position of your seat in the schoolroom, describing it as in the first, second, or third line, etc.; and in the first, second, or third row, etc. 2. Make a map of an orchard. Describe the position of a tree in the orchard, thus:—The tree X is in the third row from the west, and in the second row from the south, and so on. 3. Take a chess-board, or rule your slate like a chess-board. Number the lines each way along the sides. Place chess-men, or mark letters at the points where some of these lines cross one another. Hold one side of the board, or of the slate, towards the north. Now describe the positions of the chess-men, or letters, as third line east, fourth line south, etc. 4. Draw a line from east to west across the middle of the board used in question 3. Mark this line 0, and number the lines above it 1, 2, 3, etc.; the lines below it in the same way. Draw another line down the middle from north to south, and mark it 0. Number the lines on each side of it 1, 2, 3, etc., both to the east and the west. Now describe the positions of the points previously marked, and call the distances latitude and longitude, thus:—The point A is in latitude 4 north, and in longitude 3 east. 5. Describe the position of a farm in your township, thus:—The farm is lot 7, 4th concession east of the base line.

To the Teacher.—Show the pupils that while a degree of latitude always represents the same distance, about 69 miles, the degrees of longitude vary all the way from that distance at the equator to zero at the poles. You may get them to solve some interesting problems with the aid of the globe, which will serve to fix important geographical facts in their memories. Stretch a string around the globe. With great care obtain its exact length, and mark this off accurately upon a convenient place, say the frame of the blackboard. Divide this distance into 36 exactly equal parts. Divide some of these parts again into exactly ten equal parts. Each of the small parts will represent a degree, and therefore 69 miles. To find the distance between any two places, say Montreal and Calcutta,—stretch a string from point to point over the globe, taking care that the string forms part of a true circumference of the globe. Then find out from the scale previously made how many degrees this represents. Convert the degrees into miles.

LESSON XVI.

NORTH AMERICA.

To the Teacher.—This lesson should consist entirely of conversations between yourself and your pupils. The wall map should be so placed that it can be well seen by all the pupils, and should be constantly referred to by you and by them. The following notes are intended to indicate those things upon which special stress is to be laid, and the general plan to which the conversations should conform. (Lesson XVII. and Lesson XVIII. may be taken as illustrations of two of the many conversations that may be based on these notes.) Do not attempt to teach too many details. If the notes appear to be too full, omit some, still retaining the same general ground-plan. Emphasize your conversations by every possible sort of illustration:—pictures, interesting bits of travel, descriptions of scenery, and of plants, animals, birds, races of men, and so on. In the meantime do not insist upon memorization; leave most of that to be done in a review. Your present object is to give the pupils some general notions concerning the continent, so that what they afterwards learn of Canada and its provinces, and of the United States, and so on, will be properly correlated in their minds.

1. Outline, Extent, Population.

First, the general shape of the continent should be observed. Its outline should be drawn upon the blackboard by the teacher for the pupils; also by the pupils themselves. The pupils should also draw it, or trace it, on paper, from the map in their *Geography*. The outline of the continent being thus fixed in their minds, then the names of the oceans that wash its shores should be learned; then the names and positions of the principal bays, gulfs, and straits, and also of the principal peninsulas and islands (including Greenland). (Note.—In all map study, the pupils should be incited to make as many discoveries for themselves as possible.)—The area of North America (including the islands) is estimated at about 8,400,000 square miles. The population is estimated at about 71,000,000. (Note.—Numbers representing areas and populations are not given to be inconsiderately memorized. They are given—in their proper places—for the pupils to refer to when necessary, and in order that they make comparisons which will help them to remember important facts in regard to the sizes and populations of various parts of the world, as it were, involuntarily. For example, the land surface of the world is estimated at 52,000,000 square miles, and the population of the world at about 1,400,000,000: what part of the world's land surface is taken up by North America? and what part of the world's population does the population of North America make up?)

2. Subdivisions.

Teach at present only the main subdivisions. These are:—1. THE DOMINION OF CANADA. 2. GREENLAND. 3. NEWFOUNDLAND (including Labrador). 4. THE UNITED STATES OF AMERICA (including Alaska). 5. MEXICO. 6. CENTRAL AMERICA. 7. THE WEST INDIES. Teach the relative positions of these from the map.

3. Physical Features.

(Note.—If possible these should be taught from a "relief map," which should be made by the teacher with the assistance of the pupils. A spare table with raised edges may be used for the support. Moist sand or clay will do for the material. If permanency be desired, plaster of Paris should be used; or, better still, Parian cement, which does not "set" so easily. If it be impossible to make a relief map, then a "sketch map" should be made on a spare blackboard, the outlines first being drawn, and the details being filled in as the lesson proceeds.) The principal physical feature of North America is the great plateau on the western side. The eastern edge of this plateau is formed by the Rocky Mountains. This range, which is of great height (in some parts from two to three miles high), extends through the whole length of the continent, from near the mouth of the Mackenzie River to the Isthmus of Panama. On the eastern side of the range the descent is long and gradual, but on the western side it is more precipitous. The western edge of the plateau runs quite close to the Pacific Ocean, and is formed by a series of ranges (in

some parts, parallel ranges) called, in different regions, the Coast Mountains, the Cascade Range, the Sierra Nevada. These ranges descend more or less precipitously on their western sides, and give to the western coast of the continent a bold and uniform contour, except in the north, where the Coast Range seems broken up into a number of rocky islands. The plateau thus bounded extends from Alaska to Central America; in the north it is low, but it becomes higher and higher towards the south, and there it is a mile and a half high. The part lying to the west of the Rocky Mountains is crossed by several rivers, which make their way to the Pacific Ocean,—the Simpson, the Fraser, the Columbia, and the Colorado; but, owing to the mountainous nature of the country through which these flow, they are of little use for navigation. In the United States the plateau is at its greatest width, being over 1,000 miles wide in one part, and here it is marked by connecting ranges running, for the most part, east and west, and also by a great depression called the Great American Basin.

On the eastern side of the continent is another plateau, but much shorter, narrower, and lower. It is known as the Appalachian Plateau, and it, also, in places, is broken up into several parallel ranges. It extends from the Gulf of St. Lawrence nearly to the Gulf of Mexico. This eastern plateau is so removed from the ocean as to leave a low, but somewhat narrow, coast region all the way from the Bay of Fundy to the Gulf of Mexico. In this coast region rivers are numerous, and many of them are navigable for short distances.

Between these two great plateaus is a vast, comparatively low, region stretching from the Arctic Ocean and the Hudson Bay to the Gulf of Mexico, which may be called the *great central plain region of North America*. It is crossed, however, by several higher lands. One of these, called the Height of Land—never more than a quarter of a mile in height, however—divides the continent into two parts, in one of which the waters run principally northward; in the other, principally southward or eastward. The Height of Land extends irregularly from the Rocky Mountains eastward, nearly along the line which is the boundary between Canada and the United States, half-way across the continent; then, bending a little to the north, it lies wholly in Canadian territory, and reaches the Atlantic near the middle of the Labrador coast. (It may be easily traced on the map, since its course must lie between the head-waters of the neighboring rivers.)

Of the two continental divisions made by the Height of Land, the southernmost one is occupied by two great river basins (separated by a very slight elevation), the Mississippi Basin, and the St. Lawrence Basin. The Mississippi Basin comprises almost the whole of the United States lying between the Appalachian Plateau and the Rocky Mountains; it is a vast, very level, and somewhat low plain, drained by the Mississippi and its tributaries, many of these being of the greatest service for navigation. The Mississippi and the Missouri together form the longest river in the world. The St. Lawrence Basin is occupied by the St. Lawrence River, its tributaries, and its great lake expansions, Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, and Lake Superior.

North of the Height of Land there are also two well-defined parts: (1) the eastern part, or the Laurentian region (that surrounding Hudson Bay), an uneven, rocky, largely sterile country, abounding in lakes and in tumultuous rivers unfit for navigation—all draining into Hudson Bay; and (2) the western or plain region. This plain region (or *great central plain region of Canada*) also consists of two parts: (1) the southern part, drained by the great navigable rivers, the Assiniboine and the Saskatchewan, which empty into Lake Winnipeg (though this lake is itself drained through the Laurentian region into Hudson Bay by the rapid-flowing Nelson River); and (2) the northern part, drained by the great Mackenzie River, its tributaries, and its great lake expansions, Great Bear Lake, Great Slave Lake, and Lake Athabasca.

4. Climate.

At this stage little can be taught concerning the climate of the continent, except a few general facts.—In the northern islands and on the northern coasts, winter is almost continuous,—the short summers being nothing better than seasons of clouds and cold mists and rains (and this sort of climate obtains in all the north-east of the continent as far south as Labrador). Farther south, the summers are longer and brighter, and the winters less severe, though still very cold. In Ontario, we have cold winters and hot summers, with a plentiful (but not excessive) supply of rain at all seasons, and much snow in winter; and at all times we may have sudden variations of

temperature. This sort of climate obtains also in eastern Canada, and along all the eastern coast region and plateau region of the continent south of us (and along all the eastern part of the central plain region as well)—as far south as the Gulf of Mexico; with this modification, of course, that the summers become longer and the winters become less and less severe (especially on the Atlantic coast), the farther we go south, till, at the Gulf, rain almost entirely takes the place of snow in winter, very little snow being seen.—Along the western part of the great central plain there is a similar gradation of climate, with, however, on the whole, less rain and a somewhat higher average temperature than in corresponding parts eastward. At the eastern base of the Rocky Mountains, in Canada, the winter temperature is so mild that cattle remain out all winter, and the rainfall, though not abundant, is sufficient; but in the United States territory, the average heat and dryness increase as we proceed southward, and finally, the country, through excessive dryness, becomes an arid desert.

—The western coasts of the continent have a much milder climate than that of corresponding parts of the eastern coasts; for example, Alaska has a much more hospitable climate than Labrador; the western coasts of Canada have much more rain than snow in winter; and the western coasts of the United States have an agreeable climate all the year round (with, however, an insufficiency of rain). But farther south, in the peninsula of Old California, so dry is the climate, the country is a desert.—Mexico and Central America, except in the highlands, have a tropical or hot climate, with a great deal of rain all the year round—in some parts daily.

5. Vegetation.

The vegetation of the continent varies with its climate and its soil. In the extreme north, within the Arctic Circle, not a tree is to be found: vegetable

life is seen only in mosses (some of which, however, are edible), lichens, saxifrages, and a few shrubs. (The pretty red snow-plant, which tints with crimson the ice-floes and cliffs of the polar sea, is one of the most characteristic forms of vegetation in this region.) Mosses, lichens, and shrubs, too, are the only vegetation found in all the north-eastern part of the continent, as far south as Hamilton Inlet, in Labrador—the barren rocks and perpetual cold of this region permitting no higher forms of vegetable life. But to the south and east of this great treeless area, a less severe climate obtains, and trees begin to appear: at first, sparse, short and stunted, then more frequent, more lofty, and more robust; birches, willows, larches, spruces, and poplars; then pines and oaks; then the maple, the beech, the ash, the elm, the cedar, the linden, the chestnut, the walnut, the hickory, the wild cherry, and the locust. In Ontario, which lies midway between the cold regions of the arctic zone and the hot countries about the Gulf of Mexico, we have all these sorts of trees. Farther south, the harder, frost-enduring trees disappear, and those that prefer a warmer climate take their place,—the live oak, the long-leaved pine, the catalpa, the persimmon, the palmetto, and others. At one time the whole

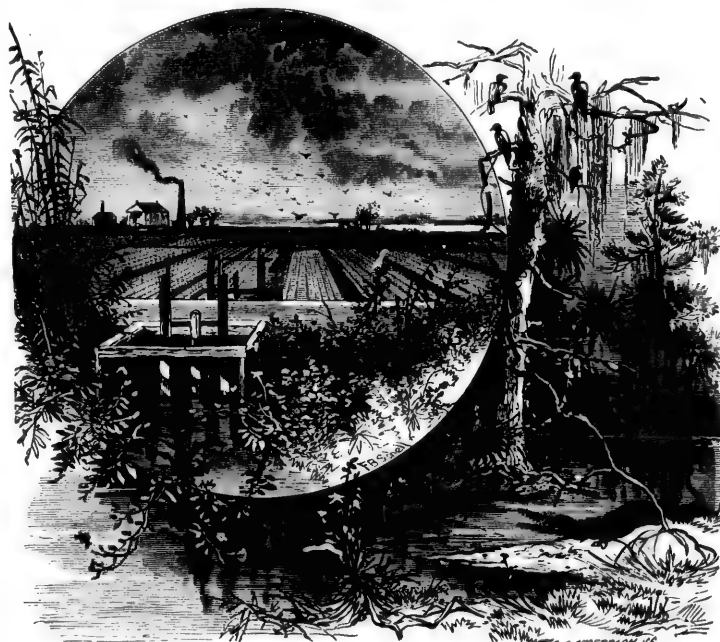
eastern plateau and coast region was covered with forest, from the Height of Land to the Gulf of Mexico, but now a great portion of this has been removed to make room for farms and plantations.—In the interior of the continent the forest region does not extend below the fifty-fifth parallel of latitude. From this parallel, almost to the Gulf of Mexico, the great central plain is generally treeless, but much less so on its eastern side than on its western side. In its south-western portion the plain is rainless and infertile,—its characteristic vegetation being the sage bush, and in the hotter parts, spiny, leafless, fleshy forms, called cactuses; but elsewhere it is for the most part of great fertility, and where not forested, covered with grass throughout the entire year, constituting the great prairie region of North America. South of the prairie region, around the Gulf of Mexico, the region of forest again appears, but comprising many sub-tropical forms, such as cypresses, acacias, and very beautiful magnolias.—The western plateau region is, in Canada, well wooded

with magnificent pines and other useful timber trees. In the United States, the northern part of the plateau is well timbered with pines and other valuable trees; so also is the southern coastward part; but the southern interior portion is well-nigh rainless, and for the most part desert.

—Mexico and Central America have a tropical climate, and it is only in the highlands of the more northern parts that the vegetation of the temperate zone can exist: the hot lowlands of the southern coasts are lined with mangrove jungles and other dense, rank, tropical growths; while farther inland, palms, giant ferns, and valuable cabinet and medicinal woods (never found except in tropical regions), are very abundant.

In cultivated vegetation there is a similar gradation. Ontario fortunately admits of the cultivation of nearly all the useful food grains and roots, and of many

useful fruits; and thus as an agricultural region is unsurpassed in the world. Wheat, in the great central plain, can be grown at a latitude much farther north than Ontario, and barley and oats (but perhaps not so fruitfully) still farther north; and all these grains can be grown in latitudes much farther south. The potato has a much less limited range than wheat, and nowhere thrives better than in Ontario. Maize (or Indian corn) scarcely does well in Ontario; but it thrives luxuriantly in all parts of the fertile central plain south of the latitude of central Ontario, and indeed, with wheat, forms the staple crop of all that region. Of fruits, the apple and the pear will scarcely thrive in northern Ontario, nor in parts farther north. The peach and the grape come to perfection in Ontario only in the southern parts, but in the United States they are grown through a considerable range south of us. In that part of the United States east of the Mississippi, and midway between Canada and the Gulf of Mexico, tobacco forms a principal crop. Farther south, cotton is the staple crop; and still farther south, the rice plant and the sugar-cane, and such sub-tropical fruits as the orange and the banana, are the principal cultivated vegetable products.—On the Pacific coast, there is a



RICE FIELD AND SOUTHERN SWAMP.

Animals of North America.



1. PUMA. 2. EAGLE. 3. ANTELOPE.
4. ROCKY MOUNTAIN GOAT. 5. LYNX. 6. GRIZZLY BEAR. 7. MOOSE. 8. GRIZZLY BEAR. 9. STAG. 10. WILD TURKEY.
11. BISON. 12. MUSK OX. 13. EIDER DUCK.
14. AUK. 15. WHITE BEAR. 16. SEAL.
17. WALRUS. 18. PELICAN. 19. CANVAS BACK DUCK. 20. BEAVER. 21. OTTER.

To the Teacher.—The Puma or Cougar, sometimes called the American Lion, and popularly known as the Painter, was formerly found as far north as the Great Lakes, but is now found no farther north than Mexico. Eagles, of various species, are found in every part of the continent. The Antelope, or Prong-horn, is found on the western plains. The Rocky Mountain Goat, a sort of Antelope, and the Rocky Mountain Sheep, or Big-horn, inhabit the inaccessible peaks of the Rocky Mountains. The Lynx, or Wild Cat, is found in all eastern North America. The Moose, or Elk, is found in all parts of Canada, as far north as the Arctic Ocean. The Grizzly Bear is found in the Rocky Mountains as far south as Mexico. Deer, of various species, are found in every part of the continent. The Wild Turkey was formerly common in Ontario and in the Eastern States, and especially in the Southern States. The Bison, or Buffalo, not long ago incredibly numerous on all the northern prairies, is now found only in the loneliest plains of the Northwest. The Musk Ox, or Musk Sheep, inhabits the barren plains of the far Northwest. The Eider Duck, the Auk, and the Walrus, are found in the northern and north-eastern coast regions of the continent. The White Bear is found only on the shores of the Arctic Ocean. The Brown Pelican is found in Central America and the West Indies; the White Pelican in summer migrates from the Gulf States to the lake regions of north-western Canada. The Canvas Back Duck is found on the coasts of the middle Atlantic States. The Beaver, formerly common throughout all the northern part of the continent, is now found chiefly in the loneliest parts of Canada. The Seal is found along the coasts of all the cold ocean waters of the continent. The Otter is found in all parts of Canada.

similar gradation of cultivated vegetation; but the climate there being warmer than on the Atlantic coast, sub-tropical plants and fruits (as, for example, the cotton plant and the orange tree) are grown in latitudes farther north than in the east.—Few of the useful food grains, plants, roots, and fruits, are indigenous to our continent. Maize and the potato, however, two of the most useful food products known to man, are natives of America; so also are the tapioca plant and the banana tree; and so too is the common tobacco plant.

6. Animal Life.

The animals of North America vary with the climate and the vegetable products, but, of course, all have a more or less wide range. In the Arctic regions are found the polar bear, the silver fox, and the blue fox. In the cold sub-arctic and cold-temperate parts of Canada are found the musk ox, the caribou or American reindeer, the wapiti, and the moose deer. In all these colder parts (and sometimes even much farther south) are also found fine fur-bearing animals, such as the ermine, the otter, the marten, the fisher, the beaver, and the mink. Having a wide range through Canada and the United States are, the black bear, the wolf, the fox, the lynx or wild-cat, the raccoon, the badger, the porcupine, the squirrel, the rabbit, the weasel, the woodchuck, the skunk, and the muskrat. In the south-eastern and southern parts of the United States is found a curious, pouched animal, called the opossum. In the great plain region of the continent are found the bison or American buffalo, many sorts of antelopes, the coyote or prairie wolf, and the prairie dog. On the heights of the great western plateau are found the grizzly bear, the cinnamon bear, the mountain sheep, and the mountain goat. In Mexico and Central America are found the puma (or catamount or cougar), and the peccary; and also the tapir, the jaguar, and other strange animals which are also found in South America. Of sea-animals, the right whale, the white whale, the narwhal, the walrus, the sea-lion, the seal, and the sea-otter, abound in the cold waters of the north; and the manatee or sea-cow in the warm shore-waters of the Gulf of Mexico and the West Indies.—Of birds, the elder-duck, the auk, and other sea-fowl, and the ptarmigan, are very numerous in coast regions of the Arctic and the north-east. Birds of prey, as eagles, vultures, buzzards, hawks, and owls, are found in almost all parts of the continent. Of birds found in the eastern parts of Canada and the United States, the principal are (of land birds):—the robin, cat-bird, blue-bird, chickadee, wren, wagtail, warbler, flycatcher, junco, cherry-bird, swallow, sand-marten, shrike, finch, cross-bill, the crow, the jay, the crow, snow-bird, marsh-robins, grosbeak, meadow-lark, bobolink, blackbird, oriole, crow, blue-jay, king-bird, pewee, whip-poor-will, night hawk, swift, kingfisher, and woodpecker. Some of these are of many varieties. Of game birds, beside wild pigeons (which, not long ago, were exceedingly numerous), there are, the grouse or "partridge," and the prairie-grouse, and quail, woodcock, snipe, and plover; also the magnificent wild-turkey, found nowhere in the world except in Ontario, and some other parts of eastern America. Of water-birds, there are the swan, the wild goose, and the wild duck, and cranes, herons, and bitterns, gulls, divers, and loons, coots or mud hens, and the pelican; some of these (as, for example, the goose and the duck) exist in many varieties. One of the most beautiful of birds is the ruby-throated humming-bird, found in all parts of the continent from the warmer parts of Canada southward. Humming-birds are not found elsewhere than in America. North America is not distinguished for its song-birds; but the mocking-bird of the south-eastern United States (found nowhere else in the world) is unsurpassed for the variety and power of its musical notes. Very many North American birds are migratory.—Of fishes, this continent has in great abundance very many useful sorts. Of "cold-water" sea-fish, there are, the cod, the haddock, the skate, the halibut, the mackerel, and the herring; of "warm-water" fish, there are the sturgeon, the "sculpin," and the blue-fish. Of fresh-water fish, there are the lake sturgeon, the salmon-trout, the white-fish, and the lake herring; also the salmon and the shad, which, though inhabitants of the sea, are generally captured in ocean-reaching rivers. Besides these, there are many other useful fresh-water fish, such as the brook-trout, the maskinonge, the pike, the pickerel, and the bass. Oyster, lobster, and shrimp fisheries are valuable sources of revenue on the eastern shores of Canada and the United States.—Of reptiles, North America has many varieties, including snakes, lizards, turtles, frogs, and toads. Of snakes, the rattle-snake is the most dangerous: it is found throughout most parts of the United States, and in parts of Canada. The huge alligator is found in the swamps and marshes of the southern United States;

and the great, much prized, green turtle is found in the West Indies.—Of insects, there are many kinds, including beautiful sorts of butterflies, moths, and beetles. Of useful sorts, are the honey-bee and the cochineal insect. There are also many noxious insects, the principal among them being, perhaps, the mosquito, the wasp, the black fly, the gad-fly, the chigger (or jigger), the potato beetle, the Hessian fly, and the curculio or weevil. Other insects, usually harmless (as, for example, the grasshopper), by suddenly increasing to great numbers, occasionally become serious plagues.—It must not be forgotten that many of the land animals and many of the birds spoken of above, have become very scarce, and even extinct, in large parts of the continent, owing to the general occupation of the country by settled communities of men.

The domestic animals of North America, south of the arctic and sub-arctic regions, are very much the same as those we have in Ontario, and are put to very much the same uses: except that in the hotter parts of the continent the mule replaces the horse as a beast of draught. In the arctic regions the only domestic animal is the dog, which is used not only for hunting, but also for drawing sledges and carrying burdens. (The domesticated reindeer, however, has in some places been introduced by missionaries.)

7. Minerals.

North America is most bountifully supplied with useful minerals. Gold is found very plentifully in many parts of the great western plateau; so also is silver; and silver is abundant on the north shore of Lake Superior.—Iron is found very plentifully in many parts of the eastern plateau, both in Canada and in the United States; and so also is coal; and in some parts these two minerals are found very near one another, which is a matter of great importance in the manufacture of iron. Coal and iron are also found near one another on Vancouver Island and other islands of the Canadian Pacific coast. Coal is also found in many parts of the great central plain, both in Canada and in the United States.—Copper is abundant on the north shore of Lake Huron, and especially so on the south shore of Lake Superior.—Lead is very abundant in the upper part of the Mississippi valley, and also in some parts of the Rocky Mountain region (in Colorado).—Petroleum is obtained in great quantities in that part of our own Province lying south of Lake Huron, and also in a large district of the United States lying south of Lake Erie.

8. People.

The present inhabitants of North America are principally the descendants of European colonists, and these also constitute the leading races. So numerous have the colonists from Great Britain and Ireland been, that the English language is that almost universally spoken in Canada and the United States; although many people of French descent are found in eastern Canada (Quebec) and in the southern part of the United States; many people of German descent in Canada, and in the United States especially; and many people of Spanish descent in the south-western part of the United States. The ruling classes in Mexico and Central America, and in some of the larger islands of the West Indies, are principally of Spanish descent.—Of the aboriginal races, the Eskimos of the north (Alaska, Canada, Greenland, and Labrador) are a short, but muscular and active, flat-nosed, oblique-eyed race, and though of many tribes, are perhaps all allied to the Mongolians of Northern Asia.—The Indians or the "red men" of America, once very numerous in Canada and the United States, are now but a small part of the population, and number scarcely more than 350,000 altogether. They are of many tribes, and speak many languages; but all (with the exception, perhaps, of the tribes in the United States west of the Rocky Mountains) bear a great likeness to one another. Though naturally cruel and vindictive, and (as a rule) disinclined to agriculture or any sort of laboriousness than hunting, they were, when first encountered by the white men, in many respects a noble race, and in oratorical ability and diplomacy quite the match of those who came to intrude upon their soil. The principal tribes or nations with which our Province has been concerned, are known as the Algonquins (including the Chippewas or Ojibways, and the Ottawas), the Hurons, and the Iroquois.—The aboriginal races (or Toltecoans) of Mexico and Central America were much superior, in respect of civilization, to those of the United States and Canada. In agriculture and architecture, and in weaving and other mechanical arts, they had made great advancement when first encountered by Europeans, and as a substitute for a written language they had a system of picture-writing. Since their subjugation by the Spaniards they have deteriorated in almost every respect.

LESSON XVII.

A JOURNEY THROUGH NORTH AMERICA.

1. **The Zones of North America.**—Our continent, as you know from your study of the globe, stretches from the north frigid zone to the torrid zone, and so has every variety of climate, from the very coldest to the hottest. Let us make an imaginary journey through it from north to south; we shall then see for ourselves, as it were, that as climate changes so does vegetation, so also do animals, and so, too, do the modes of living of people, and also their occupations.



ESKIMOS AND POLAR BEARS.

2. **The Arctic Regions.**—Let us begin our journey at the Arctic Ocean, near the mouth of the great Mackenzie River. It is always very cold here, even in summer, for summer is only a short season of cold mists and rains. The ground beneath our feet remains perpetually frozen, except for a little while in July and August, and then it thaws out only for a foot or two of depth. Mosses are the principal forms of vegetable life. A few short shrubs may be seen; but no kind of food plant, or grain, or fruit, can be grown by cultivation. But animal life is not wanting. Fine furbearing animals abound—wolves, foxes, beavers, martens, and ermines; and, in the interior, the elk, the caribou, and the musk-ox, may be found. Here, at the coast, are seals, sea-otters, walruses, and polar bears; and, also, hosts of eider-duck and other water-fowl. The seas teem with good fish, and several sorts of whales are to be seen.

3. **The Eskimos.**—The people who live here are called Eskimos. As they can get no food from the soil, they must subsist by hunting and fishing. They live in huts built half underground, and made of stones, earth, and bones. Sometimes, for winter, they build huts made of ice and snow. They clothe themselves in skins of seal and caribou, using therefor needles made of bone, and thread made of the sinews of animals: the garments are always very neat, fit beautifully, and are frequently

highly ornamented with embroidery of brightly colored leather. They make excellent canoes of bones and hides, and are very skilful canoeists. They also make sledges out of similar materials; these are drawn by dogs—strong, sinewy-necked, wolf-like animals—their inseparable companions. The Eskimos are very dexterous in their use of fish-harpoons and bird-spears, and in the use of all their weapons and tools; and, on the whole, they are a skilful people and quite intelligent. But their mode of living is very different from ours, let us hope. They are enormous consumers of fat fish and flesh, and drink blood as their favorite beverage. Where Christian missionaries have not labored among them they are exceedingly filthy in their habits, and they rarely touch water except by



PRAIRIE ON FIRE.—See next page.

accident. Their skin is naturally of only a slight brown; but it is perpetually so begrimed with smoke, grease, and other dirt, that it always appears black.

4. **The Great Wood Belt of Canada.**—We must now imagine ourselves to be ascending the Mackenzie and crossing its numerous lakes. On either hand stretches a great forest region, as yet rarely visited by white men, except adventurous hunters and trappers. The climate is still cold, but birches, spruces, larches, pines, and hemlocks, though perhaps not of great size, are yet very abundant, and they still remain untouched by lumberman or pioneer. This is a famous hunting ground, for not only are nearly all the animals of the north also found here, but likewise many others, as, for example, the black bear, the lynx, and several kinds of deer.

LESSON XVIII.

A JOURNEY THROUGH NORTH AMERICA—Continued.

1. The Great Prairie Region of North America.—Having left the Wood Belt, we enter an open country, treeless, but fertile and grass-covered. Far away before us it stretches in waving rises and falls, but it is scarcely ever hilly, and is never mountainous. This is the famous Prairie Region of our continent. Here, in Canada, it is but just beginning to be occupied by the settler; but as we journey along we come upon occasional farms and cattle ranches, and here and there a village, and, at much longer intervals, a railway, or a river with steamboats upon it. Later, when we enter the United States, and cross the Height of Land, and journey downwards on the great Mississippi River, farms and villages, and even towns and cities, become numerous, and we know that, for a longer time than in Canada, the land must have been occupied by settled communities of labor-loving men. In all this region, farming, much



COTTON PLANT.



TOBACCO PLANT.

like our own farming, is the principal occupation of the people; for this is the world-famous Wheat Belt of our continent. But as we journey southwards we notice that Indian corn more and more largely takes the place of wheat, barley, and oats, as the principal crop of the country; for the climate gets warmer and warmer, and at last almost too hot for wheat and barley at all.

2. The Past Life of the Prairies.—Not long ago all this prairie region was an unoccupied wild—in summer a vast sea of verdant waving grass, but occa-

sionally in the dry autumn time (*see picture on previous page*) catching fire and burning for hundreds of miles with terrible rapidity and fury. The prairies abounded in game—buffaloes, antelopes, deer, prairie hens, and quail—and in wolves and vultures, and other animals of prey. Their only human inhabitants were Indians; but the Indians were not fond of labor, and did little to cultivate the soil. They lived almost entirely by hunting; and, game being so abundant, they did not lack for food—the buffaloes, then incredibly numerous, forming their chief supply. But now that the white men have come into the country and turned it into farms, game has become very scarce, the buffalo especially being almost extinct; so that the Indian now depends for maintenance largely upon the bounty of his white brother.

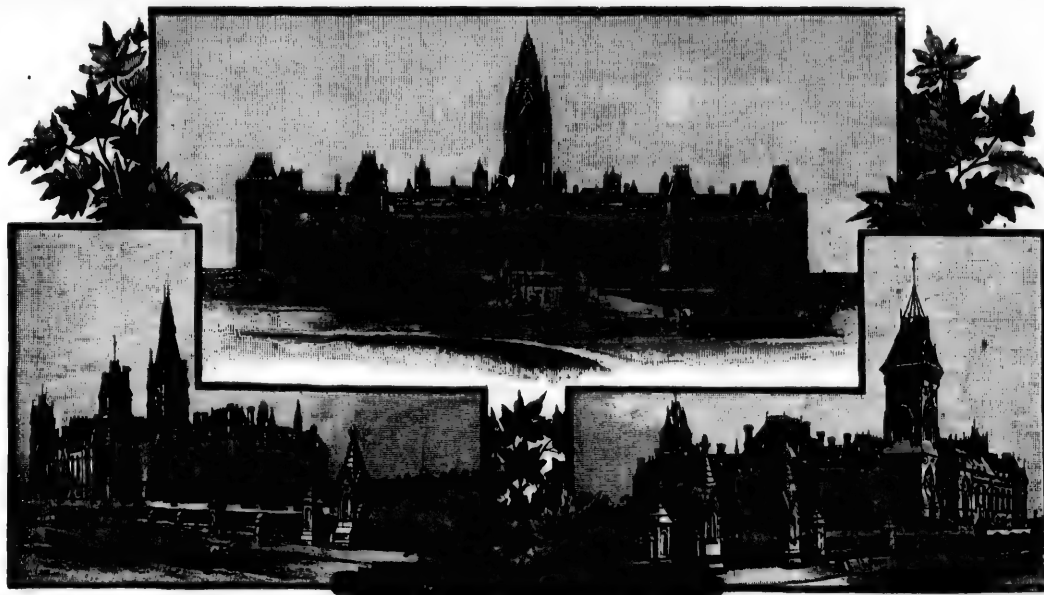
3. The Sunny South.

—As we leave the prairie region (which we do near where the Mississippi is joined by the Ohio) we notice that the climate becomes still warmer, and that farms present new appearances. Wheat fields now are very rare, but tobacco fields are numerous. Then we come to cotton plantations, and these remain on either side of us for a long time, for we are now in one of the great cotton-producing regions of the world. Finally we come to rice fields and sugar plantations—the rice plant and the sugar-cane requiring just that sort of warm climate which is found near the Gulf of Mexico.



SUGAR-CANE.

To the Teacher.—The rice plant, when growing, resembles wheat in appearance; but, unlike wheat, it requires a warm moist soil. It is generally cultivated in fields surrounded with embankments, and is sown in trenches which, by opening or closing sluice-gates, can be flooded or drained at will. (*See picture, page 28.*)—The sugar-cane is a perennial grass, growing from 8 to 12 feet high, having a sweet, juicy pith. The juice is extracted by crushing the canes between iron rollers.—In these southern fields and plantations labor is chiefly performed by negroes, whose ancestors were brought from Africa, and held as slaves; but, happily, slavery is now abolished.—The southern forests are remarkable for their many flowering trees, also for their clinging vines and draping mosses. This south-land also is remarkable for its swampy rivers, the homes of thousands of alligators and deadly moccasin snakes.



THE DOMINION PARLIAMENT BUILDINGS.

LESSON XIX.

CANADA.

To the Teacher.—This lesson is presented in conversational form; but necessarily very briefly: many of the topics will be treated more fully under the several provinces. The outline here given may be enlarged as circumstances may require.

1. Position, Extent, and Population.—Our own country is called the Dominion of Canada. It occupies the whole northern half of the continent of North America, except the Territory of Alaska, which belongs to the United States; and the coast of Labrador, which belongs to Newfoundland.—In area, Canada is nearly 3,500,000 square miles; it is thus considerably larger than the United States without Alaska, and is not much short of being as large as Europe. The population of Canada is a little less than 5,000,000.

To the Teacher.—Greenland is an island, and belongs to Denmark.—The estimated area of the Dominion is 3,470,392 square miles. The population, by the census of 1881, was 4,324,810.

2. Boundaries and Subdivisions.

To the Teacher.—Teach the boundaries from the map. In the first reading it will be sufficient to teach the *principal* boundaries only, as:—The Gulf of St. Lawrence, the Atlantic Ocean, Baffin Bay, the Arctic Ocean, the 141st meridian of west longitude, southern Alaska, the Pacific Ocean, the 49th

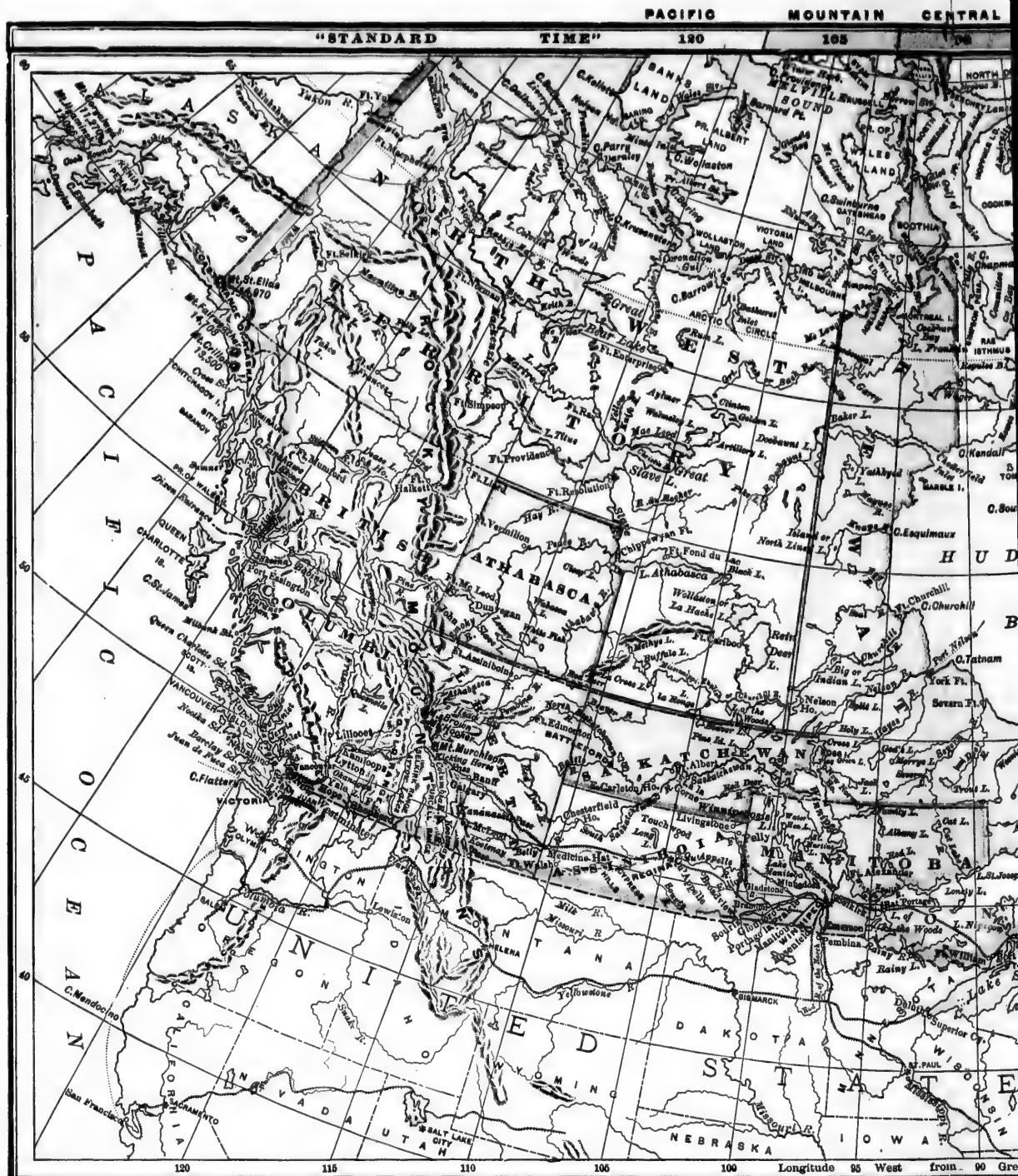
parallel of north latitude, Lake Superior, Lake Huron, Lake St. Clair, Lake Erie, Niagara River, Lake Ontario, River St. Lawrence, the 46th parallel of north latitude, and northern New Hampshire and Maine. In review, teach *all* the boundaries, making the circuit complete.

Canada consists of seven Provinces, five Districts, and two Territories. The seven Provinces are:—NOVA SCOTIA, PRINCE EDWARD ISLAND, NEW BRUNSWICK, QUEBEC, ONTARIO, MANITOBA, and BRITISH COLUMBIA. These have governments of their own. The five Districts are:—KEWATIN, ASSINIBOIA, SASKATCHEWAN, ALBERTA, and ATHABASCA. The two Territories are:—THE NORTH-EAST TERRITORY and the NORTH-WEST TERRITORY. Teach from the map the relative positions and boundaries of these fourteen subdivisions.

3. Physical Features.

To the Teacher.—The names of the principal coast features—Islands, peninsulas, gulfs, bays, and straits—should be taught in order from the map. The main surface features of Canada have already been considered in Lesson XVI. ("North America"). They should now be reviewed, and be dwelt upon more particularly. If possible, they should be taught from a "relief map"; if this be impossible, then from the wall map. The following notes will be of service:—The western part of Canada is occupied by part of the great western plateau of America, from which, both at its edges and in its interior, several parallel mountain ranges rise, giving it an exceedingly hilly or mountainous character. The range which forms its western edge has many outlying parts in the ocean, so that the Pacific coast of Canada is lined with rocky islands and indented with many rock-bound inlets. For its eastern edge the plateau has the Rocky Mountain range. Taking their rise on the western side of the Rocky Mountains, several great, but rapid and tumultuous rivers find their way across the plateau to the Pacific: the principal of these are the Stickeen, the Skeena, and the Fraser.

The eastern edge of the western plateau is lined by a series of hills (offshoots of the mountains), called the Rocky Mountain Foot Hills. To the east of these succeeds a vast level plain, the *great central plain region of Canada*, divided into two parts: the southern part, with an eastward slope, and the northern part, with a slope towards the Arctic Ocean. The southern part is





generally treeless, but fertile, and covered with grass, comprising the prairie region or "fertile belt" of our "North-West"; it is drained by two long navigable rivers, the Assiniboine and the Saskatchewan. The northern part of the central plain is the valley of the Mackenzie; in its southern portion (the valleys of the Peace and the Athabasca) it also is treeless, though fertile and grass-covered; but farther north, though generally wooded, it has a climate so cold and inhospitable that it will never be of much service as an abode for man.

To the east of this central plain region is a rugged, uneven, rocky (but not elevated) country, called the Laurentian region, encircling the whole of Hudson Bay, but comprising somewhat more than the Hudson Bay Basin, both on the west and south, and on the east. Its western and south-western edges are marked by a wonderful series of lake basins. Of these, Great Bear Lake, Great Slave Lake, and Lake Athabasca, drain into the Mackenzie River. Lake Wollaston and Reindeer Lake drain into the Churchill River, which forces its way through the Laurentian region, and empties into Hudson Bay. Lake Winnipeg, after receiving the waters of the Assiniboine and the Saskatchewan, also drains through the Laurentian region into Hudson Bay, by the Nelson River. Other great rivers emptying into Hudson Bay, and assisting to drain the Laurentian region, are the Albany, the Abitibi, the East Main, and the Great Whale rivers.

The great region lying to the south of the Hudson Bay Basin is known as the Basin of the St. Lawrence. The water-parting separating these two basins is the eastern half of the Height of Land; it lies wholly in the Laurentian region, so that the southern slope of the Laurentian region is part of the St. Lawrence Basin. (In the east, the Height of Land is known as the Watchdog Mountains.) The St. Lawrence River (known by different names in different parts) is remarkable for its great lake expansions—Lake Superior, Lake Huron, Lake Michigan, Lake Erie, and Lake Ontario—the largest fresh-water lakes in the world. The tributaries of the St. Lawrence which drain the country south of the Height of Land are, many of them, very large; of these the principal are the Nipigon, French River, the Ottawa, the St. Maurice, and the Saguenay. Several large rivers flow into the St. Lawrence from the south; of these the Richelieu is the largest. The parts of Ontario and Quebec which lie between the Laurentian region on the one hand, and the great lakes and the St. Lawrence on the other, comprise some of the finest agricultural lands in the world; but as the Laurentian region in Ontario comes quite near to Lake Superior and Lake Huron, and in Quebec extends almost to the St. Lawrence, a large portion of the northern parts of these provinces is of very much less value for agricultural purposes than the highly favored parts just described.

South-eastern Quebec, and New Brunswick and Nova Scotia, are part of the Appalachian Plateau, but these regions are scarcely mountainous; they are merely hilly or undulating, and abound in fine stretches of pastoral and agricultural lands. The St. John, in New Brunswick, is a great river, and is navigable for some distance.

Northern Canada is but little known. Its shores are characterized by many great peninsulas and islands; these are, as a rule, level, frozen wastes.

4. Climate, Vegetation, and Animal Life.

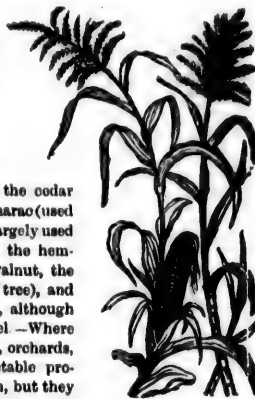
To the Teacher.—These topics have already been treated in connection with the whole continent, in Lesson XVI. They should now be reviewed, and be dwelt upon more particularly. The climate, soil, vegetation, and animal life, characteristic of Ontario, should first be considered in conversations. The facts in regard to these, elicited from the pupils, should be written upon the blackboard in due order; and then be made standards of comparison by which statements concerning the climate, soil, vegetation, and animal life of other parts of the Dominion shall be understood.—Of the whole inhabited or southern portion of Canada, except the western coast, it may be said that the climate (although, on the whole, very healthy) is excessive; that is, that it is cold in winter and hot in summer, and subject to great and sudden variations at all times. But, in the matter of rainfall, probably no part of the world is more favored than Ontario: our annual supply of rain is sufficient and not excessive.—In the Maritime Provinces (New Brunswick, Nova Scotia, and Prince Edward Island) the rainfall is greater than in Ontario, the winters being less dry and bracing, and the springs being subject to much rain and fog. But the extremes of heat and cold are not so great as in Ontario.—On the other hand, in the great plain region, the climate is more given to extremes than in Ontario, and the rainfall is less. In the south-western part of the plain

region, however, the winters are much less severe than in parts farther east, the temperature being reduced by very frequent warm winds from the west; but at times, even this milder region (although it has but little snow) suffers from extreme cold; and in summer it sometimes suffers from lack of rain.—On the Pacific coast, the climate is much milder and more equable than in Ontario, but the rainfall is excessive.

With respect to vegetation, it should be pointed out to the pupils how largely the industries of our country depend upon what naturally grows, and what can be made to grow, on our soil.

The whole of eastern Canada, south of the Height of Land, was not long since covered with an almost unbroken forest; and as a large part of this still remains, lumbering is now, as it has been from the first, one of the most important of our industries. Of the timber trees of Canada, the white pine has been the most abundant and the most valuable.

Other valuable sorts are the red pine, the cedar (used for making telegraph poles), the tamarac (used for making railway ties), the white oak (largely used for making staves and in car-building), the hemlock, the birch, the ash, the elm, the walnut, the butternut, the linden (or the basswood tree), and the cherry. The maple and the beech, although good timber trees, are mostly used for fuel.—Where the forests have been cleared off, farms, orchards, and gardens have appeared. The vegetable products obtained from these are well known, but they should be enumerated and described (as far as possible, by the pupils themselves).—In the great central plain region, the farms as yet are almost exclusively devoted to the raising of wheat and oats. In the mild south-western part of this region, cattle-grazing is an important industry, the prairie grass being edible and obtainable all winter. (For "Animal Life" see Lesson XVI.)



INDIAN CORN.

5. Minerals.—Canada abounds in minerals, but only in the older and more settled parts has the mineral wealth of our Dominion been turned to much good account. Nova Scotia has an abundance of excellent coal, some gold, and some very rich gypsum beds. New Brunswick has iron, as well as coal and gypsum. Quebec has iron, copper, gold, and phosphate of lime; but, unfortunately, no coal. Ontario, too, has no coal; but it has iron, copper, silver, salt, and petroleum in abundance. The great central plain region has an abundance of soft coal, and, in its western mountain boundary, an abundance of hard coal. British Columbia already produces a great deal of gold, and has, as well, inexhaustible stores of both iron and coal of the very best qualities.—As our country becomes older and more populous, mining will more and more become an important industry of our people.

To the Teacher.—Explain the different uses to which the above-mentioned minerals are put. Locate on the map the places in Ontario where its minerals are obtained.

6. Occupations of the People.—Canada is peopled by industrious communities: it has no large idle classes. But our industries mainly consist in turning

the natural resources of our own country to the best account for the sustenance and comfort of ourselves and of the world in general. Wherever forests remain, lumbering is still a great industry. Where the forests have been cleared away, agriculture, and the raising of cattle and sheep, and (in some of the warmer parts of Ontario) the production of various sorts of hardy fruits, are the leading occupations of the people. Wherever useful minerals abound, mining will certainly, at some time or other, become an important occupation; but as yet it is only in Nova Scotia and in British Columbia that mining can be said to be a leading industry of the people. In all the sea-shore regions of eastern Canada, and along the shores of some of our great lakes, fishing is a very important industry. The fisheries of our ocean-bordering provinces and of Newfoundland are the finest in the world. The salmon fisheries of British Columbia are also of great importance. In the Maritime Provinces the building and sailing of ships is a very important industry. Moreover, in all our towns and cities, besides those who are employed in trade, there are many other people engaged in the manufacture of goods of all sorts—principally, of course, for the use of our own people at home; but also, to some extent, for sale abroad.

7. Facilities for Transportation and for Communication.—Canada possesses a water system which, as a highway for ships and boats, is unexcelled in the world; and, to perfect this system, many canals have been built. In addition, Canada has built about 12,000 miles of railways; and, as our country is constantly becoming more settled and more populous, new railways are continually in process of construction.—For the advantage of communication the whole of the settled portion of Canada is supplied by an efficient postal service; and throughout almost the whole of this portion, telegraph lines have been constructed.

To the Teacher.—Show to the class how canals benefit river and lake navigation. Locate on the map our principal canals—the Welland Canal, the Rideau Canal, the St. Lawrence River canals, and the Richelieu River canals; also, the St. Mary River Canal, which has been built by the United States Government. Help the pupils to trace on the map the main lines of our three great railways—the Intercolonial Railway, the Grand Trunk Railway, and the Canadian Pacific Railway. Describe the postal and telegraph systems.

8. Exports and Imports.—Canada sells to other countries much of the rich produce of her forests, fisheries, mines, farms, and orchards; also some manufactured articles: these are our *exports*. Canada purchases from other nations very many manufactured articles, such as woollen, cotton, and linen goods, silks, hardware,

cutlery, and books; also many articles of food, as tea, coffee, sugar, rice, spices, and tropical fruits; and also some minerals, as, for example, coal: these are our *imports*.

9. People, Religion, and Education.—The people of Canada are principally of British origin, being the descendants of English, Scotch, and Irish ancestors, who came to this country as colonists. But in the Province of Quebec the people are mostly of French descent, that province having once belonged to France. And in all parts of Canada there are many people of German descent. But all original race distinctions are lost in our one common nationality; we now are all Canadians.—Of the aboriginal inhabitants of Canada, the Indians and the Eskimos, a number still remain; but they are found principally in the unsettled regions of the west and north. The Indians of Ontario, and of the provinces eastward, are, for the most part, civilized.—Christianity prevails everywhere throughout all Canada, except among some still savage tribes of Indians; and even among these Christian missionaries are successfully laboring.—All the provinces of Canada have established excellent systems of free (or almost free) public instruction; so that no Canadian boy or girl need grow up without obtaining as thorough an education as may be desired.

To the Teacher.—By the census of 1881 the number of Indians and Eskimos in Canada was 108,547. Of these 75,133 were outside the limits of the six eastern provinces. The number of Canadian Eskimos is about 6,000.

10. Government.—Canada forms a part of the great British Empire, and the Governor-General of Canada is appointed by the Government of Great Britain. But though loyal to the motherland and proud of her parentage, Canada is practically a self-governing state, and the tie which binds us to Great Britain is principally that of strong filial affection.

To the Teacher.—The pupils should now acquire some knowledge of the government of Canada. The following points should be explained:—The relation of Canada to the Empire; the relation of the Governor-General to the Empire and to the Dominion; the constitution of the Canadian Parliament; the power of Parliament to make laws for the whole Dominion; the duties of the Premier and his colleagues of the Cabinet; the responsibility of the Cabinet to Parliament; the relations of the different Provinces to one another and to the whole Dominion; what sorts of laws the individual Provinces may pass but which the Dominion may not pass; and the relations of Territories and Districts to the Dominion. Only a general knowledge of these matters should be imparted now; when Lesson XXIII. has been completed, they may be taken up again, and more particularly.—In practice it will be best to deduce the idea of *government and law in general* from the pupils' notion of *government and law in the school*; from this, and from the pupils' own experience, obtain a conception of government and law as these appertain to a township, or village, town, or city; from this deduce the idea of the government of the Province; and from this again deduce the idea of the government of the whole Dominion as outlined above. Information respecting these matters will be found in the *Public School History of Canada*.

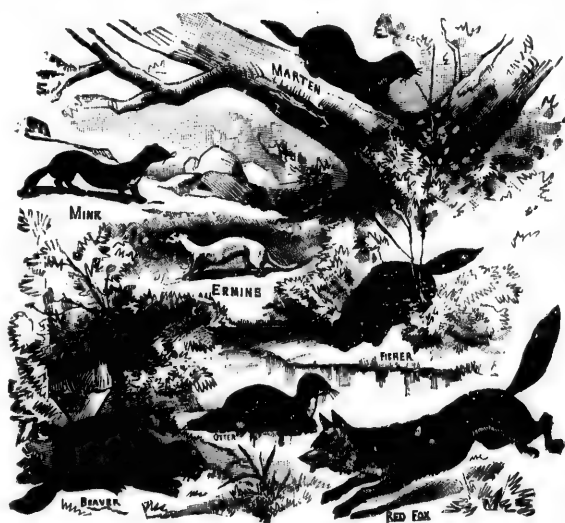
LESSON XX.

A JOURNEY AROUND ONTARIO—I. FROM LAKE OF THE WOODS TO SARNIA.

1. Ontario and its Boundaries.

To the Teacher.—Before entering upon this lesson, which is intended as a conversational introduction to the particular study of the Province of Ontario, the ground taken up in Lesson VII. should be gone over again in review. The pupils should then be led to observe how remarkably encircled by a chain of lakes and rivers our Province is. The map should be in constant use as the lesson proceeds. The teacher need not confine himself to the details given in the text; but in everything let it not be forgotten that the knowledge to be imparted is (1) what natural advantages does our Province afford its people; and (2) what use have the people made of their advantages.

2. Rainy River District.—We will suppose our starting place to be in the Rainy River District, in the



FUR-BEARING ANIMALS.

extreme west of the Province, at what is known as the North-west Angle of the Lake of the Woods. This lake, which has Manitoba on the west, the State of Minnesota on the south, and Ontario on the east, is on the northern slope of the Height of Land, and its surface is more than 1,000 feet above the sea. It feeds the Winnipeg River on the north, and is itself fed at the south by the Rainy River.

Commencing our journey, we cross the Lake of the Woods and ascend the Rainy River to Rainy Lake. Thence by a chain of small lakes, and across a short portage over the crest of the Height of Land, we reach

Pigeon River, and by it we descend to Lake Superior. The country through which we have passed is but sparsely settled as yet; but it is valuable for its fur-bearing animals, its timber, and its minerals.

3. Lake Superior.—We are now upon the largest fresh-water lake in the world. It covers about 32,000 square miles—an area almost equal to that of Ireland. Its waters are remarkably clear, and in some parts have a depth of over 900 feet. Its surface is about 600 feet above the level of the sea. Its length from Duluth, in Minnesota, to the river St. Mary, its outlet, is over 400 miles.

4. Thunder Bay District.—From the mouth of the Pigeon River, sailing north-easterly, we skirt the shore of Lake Superior and enter Thunder Bay. Here, at the mouth of the Kaministiquia, is Fort William, famous for its scenery; and six miles farther on is Port Arthur, the most important place in Thunder Bay District, where the Canadian Pacific Railway comes down to the shore to secure the traffic of the lake—to proceed thence to Winnipeg and the West. On Silver Islet and Pie Island in Thunder Bay, and on the mainland adjacent, are some remarkably rich mines of silver.

All the lakes and streams about Lake Superior abound in black bass, speckled trout, and other choice fish. The surrounding woods are the home of numerous wild animals, such as the deer, the bear, and the wolf. The mineral wealth of the region is exhaustless.

5. The North Shore of Lake Superior.—Sailing on, at the head of Nipigon Bay we come to the mouth of Nipigon River, which is the outlet of a large lake of the same name. The Canadian Pacific Railway again appears, traversing a wild, though picturesque country, chiefly valuable for its minerals. At the Wellington Mines we see quantities of copper ore ready for shipment.

Passing out of the eastern channel of Nipigon Bay, our steamer heads for Michipicoten Island. Suddenly, as we approach the island, we are enveloped in a thick fog. We must patiently lie to for a time, when the fog will lift as quickly as it came. These fogs, and the great storms that sometimes arise, are among the dangers of this immense lake. Across from here, on the United States side, are the famous Pictured Rocks, so called from the fantastic shapes into which the sandstone cliffs

of the shore have been worn by the waves. Passing the island, we steam onward towards the south-east. The lake grows narrower; soon we can see both shores—Ontario on our left, Michigan on our right. We now enter Whitefish Bay, and pass on into the St. Mary River. Here our course is interrupted by a rapid, down which no vessel dare venture. The descent of 20 feet is quickly made, however, by means of a magnificent lock in the St. Mary River Canal. This canal is on the American side, and was built by the United States Government. Here, too, a fine railway bridge spans both river and canal.

6. Algoma District and the North Channel.—

Below the canal we touch at the village of Sault (soo) Ste. Marie, the capital of the District of Algoma; and, after a delightful run down the St. Mary River, we pass the fertile island of St. Joseph, and come to Bruce Mines. Here much copper was once obtained. The river now widens into the North Channel. On the north shore is Thessalon, where we see the smoke of large saw-mills. Lumber

manufacture is carried on extensively here and at several other points along the coast. Drummond Island, away there to the south, belongs to the United States; but Cockburn (kō'-burn) Island, next to it, belongs to Canada. That river whose mouth we are passing is the Mississauga. We see in the distance on our right the Grand Manitoulin Island, the largest island in Lake Huron. The Indians who named it believed it to be the abode of the Great Spirit (Manitou). Many civilized Indians now have their homes on the island, especially at the east end of it; and also at the mouth of the Garden River, which empties into the St. Mary River below Sault Ste. Marie.

Manitoulin Island is about 80 miles long, and from 5 to 30 miles broad. Its surface is elevated and rugged. Much of the island, however, is fit for agriculture, and is now well settled. At Algoma Mills, on the north, we see signs of extensive lumbering operations. Through this village a branch line of the Canadian Pacific Railway runs from Sudbury, on the main line, to Sault Ste. Marie. Continuing our course, we pass the Spanish River, and wind our way among the many rocky islets in which the channel abounds. The La Cloche Mountains skirt the shore upon our left. Manitoulin Island soon comes

quite close to the mainland. Manitouwaning, its chief port, is away to the south of us at the head of a long, narrow bay. Passing through some very narrow channels, we at length reach Killarney; thence we sail out into the open waters of the Georgian Bay.

7. Georgian Bay.

—Georgian Bay is in reality a large lake, 120 miles long and 50 wide. At its north-east corner we stop at the mouth of the French River, noted for its scenery. This river is the outlet of

Lake Nipissing, which is 55 miles from its mouth. Lake Nipissing is 50 miles long and 15 broad. Around its north shore the Canadian Pacific Railway passes. If we were to cross Lake Nipissing, and make a short portage, we might proceed by several small lakes and the River Mattawa to the Ottawa River. In doing so we should pass through the heart of a great lumber district.

8. Parry Sound and Muskoka Districts.—

Cruising southward along the shore of Parry Sound District, on the east side of Georgian Bay, at Byng Inlet



PICTURED ROCKS, LAKE SUPERIOR.

we pass the mouth of the Maganetawan River, which drains a well-timbered valley, and is the outlet of many small lakes. Farther south, the rockbound coast opens, and we enter Parry Sound, which gives its name to the district, and also to the capital, a village on the mainland, behind Parry Island. The large saw-mills in the village remind us that we are still in a lumber region. On Parry Island we may visit a settlement of Indians. Journeying southward, we coast along the Muskoka District and pass the mouth of the Muskoka River, into which empty the waters of a long chain of beautiful lakes, much resorted to in summer by the people of Ontario. All along the course we have taken, from the mouth of the French River, are myriads of small islands, whose beautiful verdure, and variety of size and shape, make this trip one of the most picturesque in the world.

9. Matchedash Bay.—Entering Matchedash Bay, we explore the mouth of the Severn River, the outlet of Lakes Couchiching and Simcoe, on whose shores stand Orillia and Barrie. At Orillia is the Provincial Asylum for Idiots. Up the west shore of the bay we call at Midland, the terminus of the Midland division of the Grand Trunk Railway. At Penetanguishene, which is a terminus of the Northern Railway, is the Provincial Reformatory for Boys. Much lumber is conveyed from these points to the larger cities and towns of the Province. We next round Christian Island, occupied by Indians, and reach Collingwood, on Nottawasaga Bay, the southern extremity of Georgian Bay.

10. The South Shore of Georgian Bay.—Collingwood is an important town. From it several lines of steamboats make trips to various points on Georgian Bay, Lake Huron, and Lake Superior, whence they return with lumber, minerals, grain, cattle, and furs. They also bring over a great deal of grain from American ports, especially from Chicago and Duluth. The Northern Railway takes these products to Toronto, on Lake Ontario, a distance of about 100 miles, whence, for the most part, they are transported to the United States, or to England. Resuming our journey, we first come, not far west from Collingwood, to Meaford, a terminus of the Northern Railway, and a calling place for many steamers. Then we enter a deep bay called Owen Sound, at the head of which is the town of Owen Sound, the terminus of a branch of the Canadian Pacific Railway

running from Toronto, and the starting place of the Canadian Pacific line of steamers, which run to Port Arthur on Lake Superior, and connect there with the Canadian Pacific Railway. Next we come to Colpoys Bay, whose port—Wiarton—is a calling place for steamers, and the terminus of a railway running from Port Dover, on Lake Erie. Then sailing northward and rounding Bruce Peninsula (a part of which is reserved by the Dominion Government for the use of Indians) we at length enter Lake Huron.

11. Lakes Huron and Michigan.—Connected with Lake Huron is Lake Michigan, lying wholly in the United States. The channel joining the lakes, in one place only four miles wide, is called Mackinac (mack'inaw) Strait. These lakes are each about two-thirds the size of Lake Superior, Lake Michigan being a little larger than Lake Huron. Lake Michigan is about 320 miles long; Lake Huron, about 280. Their waters are from 800 to 1,200 feet deep.

12. The East Shore of Lake Huron.—Sailing down Lake Huron, at the mouth of the Saugeen River we come to Southampton, the terminus of the Wellington, Grey and Bruce division of the Grand Trunk Railway, running to Guelph. Not far from Southampton we pass Port Elgin. Coasting somewhat farther southward, we reach Kincardine, where a great deal of white-fish and of lake trout are caught. These are sent to inland towns by another division of the Grand Trunk Railway. There are also some salt-wells here. Our next place of call is Goderich, at the mouth of the Maitland, a river which drains one of the finest agricultural sections of Ontario. Goderich has a good harbor, and is the terminus of the Buffalo and Lake Huron division of the Grand Trunk Railway. It has extensive salt works, and exports large quantities of both fresh and salted fish. Sailing south-west from Goderich, we soon come to the end of the lake and enter the River St. Clair. Point Edward and Sarnia are on our left, and on our right is Port Huron, in the United States. Point Edward is the Canadian terminus of the Grand Trunk Railway, and cars which may have come from Toronto, Montreal, or even Portland in Maine, are here conveyed across the river on immense ferry-boats, to be taken to Detroit or Chicago; and here we will make a brief halt, after our long coasting cruise of more than 1,000 miles.

Exercise.—1. What is remarkable about the boundaries of Ontario? 2. Describe briefly the water system between Lake of the Woods and Sarnia. 3. Mention as many facts concerning Lake Superior as you can. 4. State what you know of the silver mines and copper mines about Lake Superior and the North Channel. 5. What is the nature of the country on the north shore of Lake Superior? 6. Describe the Pictured Rocks of Lake Superior. 7. State what you know of St. Mary River. 8. Give some account of the north shore of the North Channel. What are the principal industries of the people there? 9. Describe Manitoulin Island. 10. What can you say of the scenery along the east shore of Georgian Bay? 11. Give some account of the Muskoka lakes. 12. Mention as many as you can of the settlements of Indians along the shores of Lake Huron and Georgian Bay. How do these civilized Indians make their living? 13. Tell what you know of the fisheries of Lake Superior, Lake Huron, and Georgian Bay. What towns and villages are largely engaged in the fishing industry? What sorts of edible fish are found in our great lakes? 14. What towns and villages of this district are largely engaged in the lumber industry? Describe, as well as you can, the whole process of making lumber, beginning with the felling of the trees in the forest. From what kinds of trees is most of the lumber in Ontario obtained? Mention the different uses to which the various sorts of Ontario lumber are put: for example, what use is made of hemlock lumber? 15. Describe the Canadian steamboat routes of the northern lakes. What are the chief commodities transported by means of these steamboats? With what lines of railway do these steamboat routes make connection? 16. What fur-bearing animals are found in Ontario. State the different uses to which their furs may be put.

LESSON XXI.

A JOURNEY AROUND ONTARIO.—II. FROM SARNIA TO KINGSTON.

1. The River St. Clair.—We leave Sarnia and resume our journey, sailing down the River St. Clair. We find this river to be wider and deeper than the River St. Mary. As we glide along, we have a good view of the fine country on both sides of us. At the lower end of the river, we come to a large delta, whose low marshes and islands are formed by deposits of mud brought down by the river. Of the islands, Walpole Island, belonging to Canada, is the largest. The St. Clair Flats, as these low places are called, are much

resorted to by sportsmen for duck-shooting. Vessels pass from the river to the lake beyond by means of the St. Clair Flats Canal, eleven miles long, which has been dredged out by the United States Government.

2. Lake St. Clair.—We now enter the small and shallow Lake St. Clair. The mouth of the River Thames is at the south-east corner of this lake. The Thames drains five of the best counties of Ontario. Essex and Kent counties, which lie upon the south and east shores of Lake St. Clair, are level and fertile. Essex County, indeed, consists of prairie land, similar to that we saw in our journey down the Mississippi. These counties are much noted for their vineyards.

3. The Detroit River.—From Lake St. Clair we



sail into the River Detroit, and soon the town of Windsor appears on the Canadian side, and the city of Detroit on the American side opposite. Connecting these is a railway ferry. The trains of the Great Western division of the Grand Trunk Railway are taken bodily across the river to Detroit, on their way to Chicago and the west. One branch of the Canada Southern division of the Michigan Central Railway also crosses here by ferry; and, as we sail farther down the river, we come to the other branch at Amherstberg. Here, also, the trains are transported by ferry.

4. Lake Erie.—Rounding the south-western corner of Essex, which is also the south-western corner of Ontario, we find ourselves upon Lake Erie, the shallowest of the Great Lakes. It is only about 100 feet deep. On account of its shallowness, the sudden storms by which it is visited are more dangerous than they would otherwise

be. Lake Erie is only half the size of Lake Huron. It is about 250 miles long, and 80 miles across at its widest part. Its shores are low, and it has few good harbors.

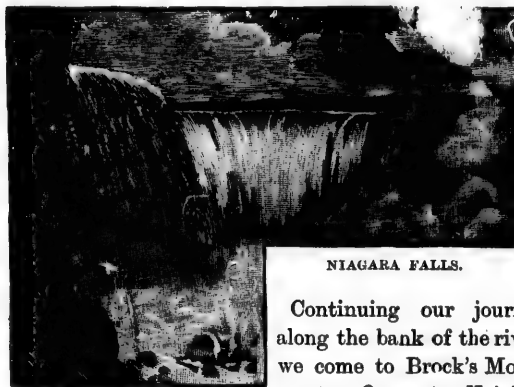
5. The North Shore of Lake Erie.—The north shore of Lake Erie, and the peninsula between Lake Erie and Lake Ontario, compose the great fruit-growing district of the Province. Grapes, peaches, pears, and plums, are produced in great abundance, besides apples, and all sorts of small fruits. In sailing down the lake, along the Canadian shore, we see, some distance out, Pelee Island. It belongs to Canada. Then we round Point Pelee, and then pass Rondeau (s) Harbor, and after a while reach Port Stanley, an important shipping point, connected by a railway with the cities of St. Thomas and London. Then we come to Port Burwell; and then, passing Long Point Island, we run in to Port Dover, connected by rail with Stratford, Wiarton, Hamilton, Barrie, and Collingwood. Farther along, we come to the mouth of the Grand River. This river, with its five branches, drains one of the very best agricultural districts in the world. It has come down all the way from the head waters of the Nottawasaga and the Saugeen.

6. The Welland Canal.—We are now nearing Port Colborne, at the entrance to the Welland Canal. This canal is about 28 miles long, and has cost the Canadian Government over twenty millions of dollars. Were it not for it, ships could not get from Lake Erie to Lake Ontario, as the great Falls of the Niagara prevent the through navigation of that river. But by the canal and its locks, ships can easily, though somewhat slowly, make the journey, and passing Thorold and the city of St. Catharines, come to Port Dalhousie, on Lake Ontario—descending over 325 feet in all.

7. Niagara River and Niagara Falls.—We, however, will go down to Lake Ontario, along the bank of the Niagara River. Having come to Fort Erie, opposite the city of Buffalo, we visit the great International Bridge, which spans the Niagara River. It cost \$3,500,000. Continuing our journey, we follow the Canadian bank of the river. We observe that the current grows swifter and swifter. Soon it breaks into rapids; and these becoming yet swifter and more awful, the river finally makes its great plunge, forming the world-renowned Falls of Niagara. At its cataract, the river is divided into two parts by Goat Island—the American Fall, about 1,400 feet wide, and the Canadian

Fall, of nearly twice that width, better known from its shape as the Horse Shoe Fall. The great river leaps over a sheer precipice of about 160 feet, and the thunder of its waters can be heard ten miles away.

Niagara River is 34 miles long, and the Falls are about 20 miles from Lake Erie. A little way below the Falls is a bridge spanning the river, much used by sight-seers; and a little farther down still are two magnificent railway bridges—the Cantilever Bridge and the Suspension Bridge. About two miles below the Falls is the great Niagara Whirlpool. Below the Whirlpool the river flows with a calm though still rapid current, on which steamers can easily ply.



NIAGARA FALLS.

Continuing our journey along the bank of the river, we come to Brock's Monument, on Queenston Heights, which reminds us that this Niagara peninsula has been the scene of many important events in the history of our country. At last we reach Niagara, a very old town, the first capital of our Province. Here the river empties into Lake Ontario.

8. Lake Ontario.—Ontario, the lowest of the Great Lakes, is 247 feet above the sea level. It is about 190 miles long, and, at its widest part, 65 miles broad; and its area is somewhat more than 6,000 square miles. It is thus the smallest of the Great Lakes. Its waters are from 300 to 700 feet deep. The country along both the Canadian and American shores is generally fertile, and is well peopled with agricultural, manufacturing, and commercial communities.

9. The West End of Lake Ontario.—Our journey westward from Niagara takes us along a fine peach-growing district. We first reach Port Dalhousie at the end of the Welland Canal. Soon the Hamilton

Mountain appears. In a little while we enter the short Burlington Canal, over which, by an iron swing-bridge, the Northern and North-Western Railway passes. By the canal we reach Burlington Bay, which is, as you see, completely land-locked. Upon its south-western shore, the city of Hamilton is picturesquely situated at the foot of the Mountain. Hamilton is the second city in Ontario; it has excellent railway facilities, and is noted for its manufactures. The Desjardins Canal extends from Hamilton to Dundas, five miles inland. Dundas was the original port of the early settlers of this part of the country. Dundas and Hamilton are also connected by a steam tramway.

Leaving Burlington Bay, we sail north-eastward, and pass along a district noted for the fine strawberries and other small fruits which it produces. We come to Oakville, and then to Port Credit, at the mouth of the Credit. This river has descended from the highlands near the sources of the Grand and Nottawasaga rivers. Passing now the mouth of the Humber, we enter Toronto Bay, well sheltered from storms by its island. The city of Toronto is built upon this bay. It is the capital of the Province of Ontario, and contains more than 112,000 inhabitants. Next to Montreal, it is the greatest commercial centre in Canada. It is the converging point of the railway system of the Province, and it is growing year by year with great rapidity. But as we shall learn more of the cities and towns of Ontario by and by, we hasten on.

10. The North Shore of Lake Ontario.—Continuing our course eastward, we skirt a magnificent agricultural district, and pass in succession Whitby, Oshawa, Bowmanville, Port Hope, and Cobourg, all thriving towns. Three of these—Whitby, Port Hope, and Cobourg—are each the terminus of a railway. We sail round the county of Prince Edward into the Bay of Quinte. This county, naturally a peninsula, has been converted into an island by the Murray Canal, which you must find for yourselves on a map. Prince Edward is noted for its barley and fruit. Sailing up the Bay of Quinte, on our left we sight Picton, the capital of the county—far in at the head of an inlet. At the head of the Bay of Quinte we come to Trenton, at the mouth of the Trent. If we chose to make an excursion up the Trent, we should constantly meet large quantities of timber floating down, to be sawn into lumber at towns

along its banks. We might ascend this fine waterway, past Campbellford, Hastings, Peterborough, Bobcaygeon, and Fenelon Falls—through Rice Lake, Stony Lake, Sturgeon Lake, Balsam Lake, and on through many other small lakes and their connecting rivers, to the head waters of the rivers of the Muskoka District. This journey would afford us some of the most varied and picturesque scenery to be found on the continent. However, as we cannot now do this, we return down the bay to the city of Belleville, at the mouth of the Moira. From this city a railway runs northward to Madoc, the centre of a fine mineral district which produces excellent iron-ore, and some gold. From Trenton, also, a railway runs to this mineral district, and brings down much iron-ore from Marmora. Continuing our course down the narrow and winding Bay of Quinte, we come to Amherst Island at its mouth. Passing it, we next come to Wolfe Island; and then, on the mainland opposite, to the city of Kingston.

At Kingston is the entrance to the Rideau (5) Canal, which, linked with a chain of small lakes and the Rideau River, unites Lake Ontario with the River Ottawa. This picturesque waterway is 126 miles in length. Before the canals on the St. Lawrence were constructed it was part of the great water route to Montreal. From the plentifulness of limestone about it, much of which has been used in building it, Kingston is called the "Limestone City." It is the terminus of a railway running up to Renfrew, and connecting it with the Canadian Pacific Railway. Kingston is one of the oldest places in Ontario, a fort having been built here by the French over two hundred years ago. It was the first capital of the Province of Canada (Ontario and Quebec), and has been an important military post. Near by is Fort Henry.

Exercise.—1. What causes the St. Clair Flats? Why are they resorted to by sportsmen? 2. At what places are railway trains conveyed into the United States from Ontario by ferry? At what places may they pass over on bridges? 3. What are the fruit-growing districts of Ontario? Describe each. 4. What railway comes to Port Stanley? What railways come to Port Dover? What connections do these railways make? 5. What is a canal lock? Of what use is it? 6. What railway passes over the International Bridge? What railways pass over the Cantilever and Suspension Bridges at Niagara Falls? 7. Trace the courses of the Thames, Grand, and Credit Rivers. 8. What railways meet in Toronto? 9. What railways terminate at Whitby, Port Hope, Cobourg, Picton, Belleville, Kingston? 10. Tell what you know of the mineral district lying north of Belleville. 11. Trace on the map the Rideau Canal.

LESSON XXII.

*A JOURNEY AROUND ONTARIO—III. FROM KINGSTON TO LAKE OF THE WOODS.***1. The Lake of the Thousand Islands.—**

Leaving Kingston, we resume our journey around the Province of Ontario. To descend the St. Lawrence we will take one of those magnificent steamboats that ply between Toronto and Montreal, and are such favorites with tourists. We leave the waters of Lake Ontario and enter an archipelago known as the Lake of the Thousand Islands. This beautiful lake is 50 miles long, and is studded with islands—

some 1,900 in all—of various shapes and sizes.

For the most part these islands are granite rocks covered with a thin layer of soil, and clothed with beautiful verdure. As we glide along, at the rate of 14 or 15 miles an hour, through channels now wide, and now narrow, passing here a tiny island which seems to be merely a large basket of foliage daintily resting upon the water, and there a larger

island with picturesque groups of trees upon it, amid which may be seen the gay-colored tents of pleasure-seekers escaped from the heated city, we may well fancy that we are gazing upon the moving scenery of some fascinating panorama. After we have passed Wolfe Island we come to the widest expanse of this charming lake. Here we have Clayton on the American shore, and opposite, on the Canadian shore, Gananoque (*gān-ā-nock-we*), a town which manufactures agricultural tools in large quantities. A further delightful sail of 30 miles brings us to the last of the islands; the shores approach one another, and we are in the St. Lawrence River proper.

2. Down the St. Lawrence.—We soon come to Brockville, a town of 9,000 inhabitants. Large quantities of cheese and butter, produced in the neighboring rich pasture country, are shipped from here. An im-

portant branch of the Canadian Pacific Railway comes to Brockville, and the main line of the Grand Trunk Railway, whose course has run parallel with the shore of the river all the way from Kingston, passes through it. Near the dock we see the entrance to a tunnel, half a mile long, running under the middle part of the town, through which trains come down to the river. A ferry crossing to Morristown connects these railroads with the American lines. Continuing our course, we next come to Prescott, another important town, on the Grand Trunk Railway, and, like Brockville, connected by rail with Ottawa. Across the river is Ogdensburg, an American city of 12,000 inhabitants, noted for its large

flour mills. A mile below Prescott are the ruins of the old Stone Windmill, made famous in the Rebellion of 1837. A few miles farther down we pass Morrisburg, and soon after we come to the great rapids known as the Long Sault. "Sault" (*sō*) is a French word meaning "leap." We become somewhat excited as our steamer rushes down through the broken water—darting suddenly to right or to left in obedi-



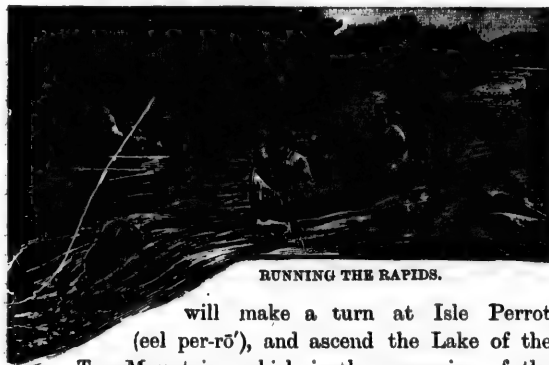
LACHINE RAPIDS, ON THE ST. LAWRENCE.

ence to the helm, in order to shun the sharp rocks which lie on every side. A slight error in steering would be fatal to our vessel; but the course is so well known to the skilful pilots who are always employed here, that accidents very rarely happen. There are several of these rapids in the St. Lawrence before it reaches Montreal, the more formidable being the Long Sault, the Cedars, the Cascades, and the Lachine (*lah-sheen*). All the rapids are navigable by steam craft on the down-trip, but upward-bound vessels have to make use of the canals built along their banks. The canal around the Long Sault is $11\frac{1}{2}$ miles long. In Ontario and Quebec we have, altogether, about 150 miles of canals, besides the canals of the Rideau. Our canals have cost \$50,000,000.

At the foot of the Long Sault we call at Cornwall. Here we see vessels entering the canal on their up-trips; and we might visit, if we had time, the blanket factory,

the cotton mills, and the paper mills, for which Cornwall is noted. So far in our trip down the St. Lawrence the State of New York has been on our right hand. At Cornwall, however, we pass the international boundary line, and the St. Lawrence is henceforward a Canadian river. Journeying on we soon find the river expanding into a lake, called Lake St. Francis. Farther down the river there are two other expansions—one near Montreal, known as Lake St. Louis; one some distance below, known as Lake St. Peter.

About the middle of Lake St. Francis the Ontario boundary line turns to the north, and runs to Point Fortune on the Ottawa. The small triangle thus cut off between the St. Lawrence and the Ottawa belongs to the Province of Quebec. We will leave our steamer at Coteau Landing, and, descending to Lake St. Louis,



RUNNING THE RAPIDS.

will make a turn at Isle Perrot (eel per-rō'), and ascend the Lake of the Two Mountains, which is the expansion of the River Ottawa where it joins the St. Lawrence.

3. The Ottawa River and its Tributaries.—

The Ottawa River is almost 500 miles long. It comes down all the way from the Height of Land, and drains a valley of 80,000 square miles, of immense value for the timber which it produces. The navigation of the river is in several places broken by rapids, but there are many long stretches over which large steamers make regular trips. The Ottawa has many tributaries. On the northern or Quebec side are the Rouge (roozh); the Petite (pē-teet') Nation; the Du Lievre; the Gatineau (ō), itself 250 miles long; the Coulonge (koo-lonzh'); and the Black River; and on the southern or Ontario side, the Nation, which rises near Prescott and Brockville; the Rideau; the Mississippi, which drains the county of Lanark; the Madawaska, whose head waters adjoin

those of the Trent and the Muskoka; the Bonnechère (bon-share'), which drains a large part of the county of Renfrew; the Petawawa, which carries off the waters of the Nipissing District; and the Mattawa, whose head waters are quite close to Lake Nipissing.

4. Up the Ottawa.—Having left the Lake of the Two Mountains we ascend the Ottawa River, and at Carillon, on the Quebec side, enter a canal by which rapids are avoided. Here an immense dam has been built right across the river, and slides have been made through it, down which timber can be sent swiftly without being damaged, as it would be if it were allowed to rush down the rapids. A little farther up, on the Ontario side, is L'Orignal (lō-re-nal'), the capital of the counties of Prescott and Russell. As we journey on we meet rafts of square timber and of deals on their way to Quebec, whence they will be shipped to England. By and by we come to the city of Ottawa, the county-town of Carleton, and the capital of the Dominion of Canada.

As we shall learn more of Ottawa after a while, our visit here must be short. We must, however, go to the Parliament Buildings, the finest government buildings on the continent. The prospect from the top of the main tower is one of the most extensive and magnificent to be obtained in Canada. We must see, too, the interesting locks of the Rideau Canal, and also the Suspension Bridge, which connects Ottawa with Hull. From the bridge may be had a fine view of the Chaudière (shō-de-are') Falls, next to those at Niagara the finest in Ontario. Close to the city the Rideau River fairly tumbles into the Ottawa River, forming the Rideau Falls, also noted for their beauty.

Leaving the capital and ascending the river again, we enter Chaudière Lake, and some distance farther up, Lake des Chats (day-shah'), which receives the waters of the Mississippi, the Madawaska, and the Bonnechère. Then we pass two large islands, both belonging to Quebec,—Calumet and Allumette. Opposite Allumette Island is Pembroke, the county-town of Renfrew. The Canadian Pacific Railway, which came close to the river at Arnprior, on Lake des Chats, at Pembroke again approaches it. From Pembroke to Mattawa it runs parallel with the river. At Mattawa it leaves the valley of the Ottawa, and ascends that of the Mattawa to La Vase, at the east end of Lake Nipissing, where it

is joined by the Northern and Pacific Junction Railway, from Toronto. Thence it winds round the north shore of the lake, and proceeds on its long course to the Pacific Coast.

At Mattawa our course turns north-westward up the Ottawa, which here makes a bend; and soon we are in the waters of the long Lake Temiscaming.

5. From Lake Temiscaming to the Lake of the Woods.—At the head of Lake Temiscaming, at a point almost straight north of Toronto, the provincial boundary line leaves the Ottawa River, and runs due north over the Height of Land, across the head of Lake Abitibi, and down to James Bay, near the mouth of Rupert's River, which is the outlet of Lake Mistassini.

Having, in fancy, made this journey, we now find ourselves on a bleak, rock-girt, inland sea, icebound nearly all the year. We skirt, however, the southern shore of the bay westward, past the mouths of the Harricanaw, Abitibi, and Moose Rivers, and up the western shore to Fort Albany, at the mouth of the Albany River. Thence we ascend the Albany, with the District of Kewatin on our right, until we reach a point almost straight north of Port Arthur, whence the Province of Manitoba is on our right. We reach the head of Lake Joseph; thence we make a portage to Lonely Lake, and from it we descend the English River to its confluence with the Winnipeg River. We ascend the Winnipeg River to Rat Portage, at the north end of the Lake of the Woods. Rat Portage is the capital of the Rainy River District. Possessing unlimited water power, it manufactures a great deal of lumber. It is also the centre of a rich mineral district. The Canadian Pacific Railway, that we left at Mattawa, here meets us again, and, crossing the Winnipeg River, proceeds to the city of Winnipeg, which is only 132 miles distant.

We will now go across the Lake of the Woods, to its "north-west angle," which was the point from which we set out on our long journey along the boundaries of Ontario.

To the Teacher.—The western boundary of Ontario is not exactly that given in the text, but a line drawn due north from the international monument, at the north-west angle of the Lake of the Woods, to the English River.

Exercise.—1. Trace on the map the eastern boundary of Ontario. 2. What waters are passed on the route from Lake Temiscaming to Lake of the Woods? 3. Trace on the map the boundaries of the districts of Ontario, and point out their chief places. 4. What boundaries of Ontario are not formed by water?

LESSON XXIII.

ONTARIO.

1. Size and Population.—Ontario is, next to British Columbia, the largest province in the Dominion; its population is the greatest of the provinces; and in respect of wealth, products, manufactures, and general business, it is the most important. Its area is about 220,000 square miles. Its length from east to west is about 1,000 miles. Its population in 1881 was 1,923,228. Its present population is estimated at about 2,225,000. *not correct*

2. Boundaries, Physical Features, and Subdivisions.

To the Teacher.—The boundaries as described in the three preceding lessons should be reviewed from the map.—The physical features as incidentally treated in Lesson VII., and also as described in Lessons XVI. and XIX., should again be taken up, and be thoroughly taught from the map.—The Laurentian region occupies almost the whole of western and northern Ontario, and a branch of it stretches from Georgian Bay and French River south-eastward to the St. Lawrence at the Lake of the Thousand Islands. It is in this region that the principal mineral wealth of Ontario is obtained—silver, copper, gold, zinc, nickel, and lead, in the west; iron, mica, plumbago, phosphate of lime, and some lead and gold, in the east.—The counties should be taught from the map in groups; and with each county should be associated its county-town.

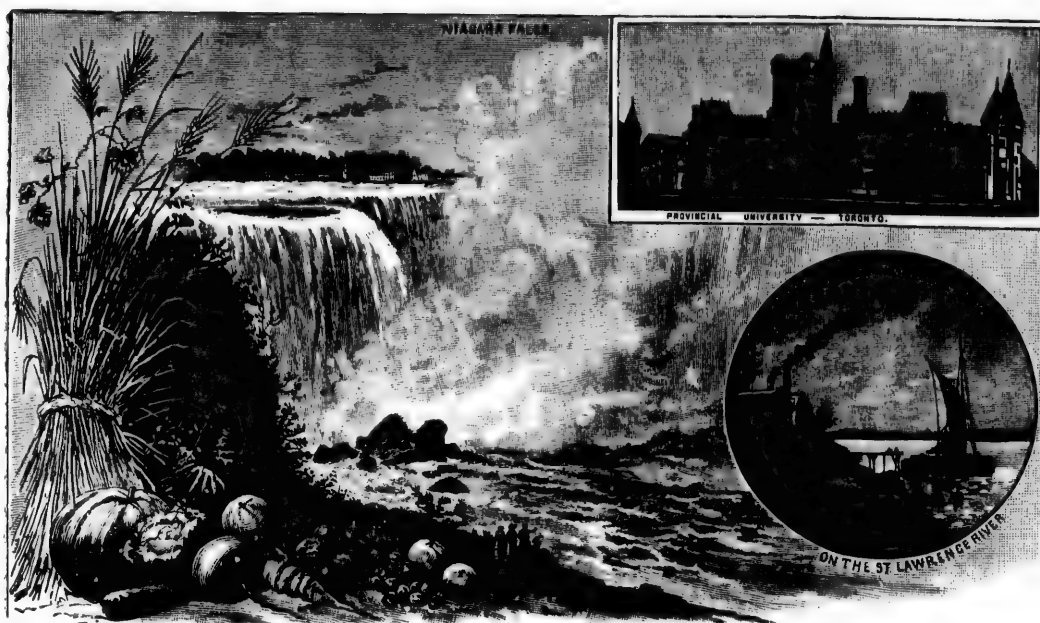
3. Soil, Climate, Occupations of the People.

To the Teacher.—The Laurentian region of Ontario, although it comprises many good farming tracts, is of much less general fertility than the non-Laurentian parts, these being among the finest agricultural regions of the world.—The climate, as treated in Lesson XIX., should be reviewed.—The industries, other than agriculture, will be sufficiently treated under "Cities" and "Towns."

4. People, Religion, Education, and Government.

—The people are, for the most part, of English, Scotch, and Irish descent; but about one-tenth are of German descent, and one-twentieth of French. All religions possess equal privileges. Education is liberally supported, and is practically free to all. The Provincial Legislature consists of (1) the Lieutenant-Governor, who is appointed every four years by the Governor-General, and (2) the Legislative Assembly of 90 members, elected every four years by the people. The government is administered by the Lieutenant-Governor, with the assistance of an Executive Council of six members.

To the Teacher.—See that the pupils acquire a definite knowledge of the educational system of the Province—the relations to one another of the public school, the high school, and the university; how these institutions are supported—what the Government does for them, and what the people directly; how they are conducted; how a pupil may advance from one to another; and so on. The constitution of the Government of Ontario was treated incidentally in Lesson XIX. It should now be thoroughly explained to the pupils—the mode of election of members of the Assembly; the method of appointment of the Premier and of his colleagues, their responsibility to the electors and to the Assembly, and their duties and term of office; the duties of the Lieutenant-Governor; how a bill becomes law; and so on.



SCENES IN ONTARIO.

5. Cities.—The cities, at present, number eleven.

To the Teacher.—Explain to the pupils what is meant by an incorporated village, an incorporated town, an incorporated city. Explain their respective constitutions and governments; the duties of their officers, and the modes of the appointment or election of these. Explain why Ottawa is called the capital of the Dominion, and Toronto the capital of Ontario. In the following description many things are mentioned which will be new to the pupils. Converse with the pupils about these, eliciting information where you can, and conveying new information to them where it is necessary. See that the pupils understand the uses of the different public institutions that are mentioned; also, the meaning and use of all other things mentioned and described. The information given in the text, especially in reference to manufactures and trade, is only general; wherever you can, make it more definite. Incite the pupils to give descriptions of the particulars of their own localities, as the situation, population, size, government, civic officers, trade, manufactures, commercial facilities, natural products, etc. The text-book must not be regarded as the sole source of information; its lessons and statements are simply texts which you are to amplify, and on which you will base further information. Its statements, in this lesson particularly, are not intended to be learned by rote, but to be talked about and discussed until they are understood, and made part of the mental equipment of the pupils. The numbers enclosed in brackets are the populations of the places to which they are attached. The first number gives the exact population according to the census of 1881 (explain to the pupils what is meant by "census"); the second number gives the estimated present population. These numbers should not be learned by rote. They are given merely to aid the pupils in forming correct notions of the sizes of places and their relative importance. The pupils should be taught to take the population of their own village or town as a unit, and with that to compare the populations of other places. Squares drawn upon the blackboard will convey fairly accurate notions of the relative sizes of places. For example, if a square of one inch be taken to represent a place of 1,000 inhabitants, a square of a little more than 10½ inches to the side will represent Toronto (112,000). Let the pupils do for themselves as much of this work of comparing as possible. If they understand square root they will have no difficulty. If they do not, they can easily

find the proper dimensions by trial. Areas can be compared in the same way. Do not leave the lesson until the pupils can point out upon the map immediately any place given in the text, and can trace quickly the course of any railway, and mention the more important towns and villages situated upon it. The railway system of the country is exceedingly important. It should be thoroughly mastered.

TORONTO (86,415; 112,000) is the capital of Ontario, and its largest city, and the second largest city in the Dominion. Including its suburbs, its population is about 112,000; and this is rapidly increasing. Toronto was founded in 1793. It was first called York, and was long known as "muddy York." It was not till 1834, when it was incorporated as a city, that it assumed its present name. The city is built on the shore of a fine, well-protected harbor, and has excellent facilities for its shipping trade. One may pass out from it in eight directions by railway; it is thus the chief railway centre of Ontario. Its distance from Montreal is 333 miles; it is connected with that city by water, and by the Grand Trunk Railway, and by the Canadian Pacific Railway. It has also regular steamboat connection with several American cities. It has a large wholesale trade, and its manufactures are numerous and important, including engines, agricultural implements, pianos, organs, furniture, safes, stoves, boots and shoes, books, paper, carriages, sewing-machines, leather, and soap. In fact, there is scarcely any branch of manufacture which is not carried on in this city. Toronto is justly celebrated for its public buildings. Of these, the University of Toronto is the finest. Of the others, there may be mentioned Osgoode Hall, the Customs' House, the Normal School, and the Parliament Buildings; Upper Canada College, Trinity College, Knox College (Presbyterian), McMaster Hall (Baptist), St. Michael's College

(Roman Catholic), and Wycliffe College; St. James's Cathedral, St. Michael's Cathedral, the Metropolitan Church, and St. Andrew's Church; the General Hospital, the Central Prison, the Mercer Reformatory, and the Provincial Asylum for the Insane, —this last probably the largest building in the Dominion.

OTTAWA (27,412; 30,000) is the capital of the Dominion of Canada. It became so when the Dominion was formed, July 1st, 1867. Previously, in 1859, it had been selected by Queen Victoria as the capital of Upper and Lower Canada (Ontario and Quebec). Its former name was Bytown, having been named after Colonel By, by whom it was founded in 1827. It assumed its present name in 1854, when it became a city. Ottawa is noted for its picturesque situation. The Chaudière Falls and the Rideau Falls are much celebrated for their beauty. The magnificent Parliament Buildings excite the admiration of visitors from all parts of the world. One of the two Normal Schools of the Province is at Ottawa. It is the seat, also, of the College of Ottawa (Roman Catholic), Ottawa Ladies' College (Presbyterian), and several other educational institutions. The city has an immense lumber trade, and its saw-mills and lumber factories are of the most complete and extensive kind. Divisions of the Canadian Pacific Railway connect Ottawa with Toronto, Brockville, and Prescott; and the main line of this railway, which runs from Montreal to Manitoba and British Columbia, passes through the city. By the Canada Atlantic Railway it is connected at Coteau Landing with the Grand Trunk system, and railways are being constructed up the Ottawa River and up the Gatineau. There are also steamboat connections with Montreal and with Kingston. Ottawa is the home of the Governor-General of Canada. His residence is Rideau Hall, in New Edinburgh, a suburb. Including its suburbs, Ottawa has a population of 30,000.

HAMILTON (35,961; 42,000) is the second city of the Province. It was founded in 1813. It has a fine harbor, and regular steamboat connection with Toronto, Montreal, and other cities and towns on Lake Ontario and the St. Lawrence. The Great Western division of the Grand Trunk Railway, and its branches, and the North-Western Railway, which runs from Port Dover to Barrie and Collingwood, give to Hamilton excellent railway facilities. Hamilton is a manufacturing city. Its manufactures include machinery, agricultural implements, iron bridges, stoves, sewing machines, boots and shoes, cotton and woollen goods, and pianos. The city possesses an excellent system of water-works. It is the seat of the Wesleyan Female College (Methodist), and of one of the Provincial Asylums for the Insane. The building which has been erected by the Dominion Government for the Post Office, Customs' House, etc., is one of the finest in the Province.

LONDON (19,746; 22,000) is the principal city of western Ontario. It is surrounded by a rich agricultural district, and it manufactures agricultural implements largely, and has a large trade in all sorts of farm produce. It also manufactures railway cars and engines. At London the two branches of the Thames meet, but the river here is of no value as a waterway. Several divisions of the Grand Trunk Railway radiate from London, and thus its commercial facilities are excellent. The streets of the city are wide, and their appearance fine. London is the seat of the

Western University, and of Hellmuth Ladies' College (Anglican), also of one of the Provincial Asylums for the Insane. If its suburbs be included, London has a population of over 30,000.

KINGSTON (14,091; 16,000) is the oldest city in Ontario. A settlement was made on its site in 1783, but it had been an important military post of the French from 1673. It is the only fortified place in the Province, and for military strength ranks next to Halifax and Quebec. The first Government of Upper Canada (Ontario) was organized at Kingston by Governor Simcoe in 1792. Kingston is the seat of Queen's University and College, and of the Royal Military College. The Provincial Penitentiary and the Rockwood Lunatic Asylum are at Portsmouth, adjacent to Kingston. Its fine harbor, the Rideau Canal, its railroad to the north, and its advantageous situation, have made Kingston a place of very considerable commercial importance. Among its manufactures are railway locomotives and cars. It has, also, smelting-works, for reducing metals from their ores.

GUELPH (9,890; 11,000), on the Speed, a branch of the Grand River, is in the heart of one of the finest agricultural districts in the Province. It is noted for its cattle market. As the main line of the Grand Trunk Railway is crossed by the Wellington, Grey and Bruce division at Guelph, the city has excellent facilities for trade. It manufactures engines, agricultural implements, sewing-machines, pianos and organs. One mile to the south is the Ontario Agricultural College. Near the city are fine quarries of building-stone and limestone.

ST. CATHARINES (9,631; 10,500), on the Welland Canal, has mineral springs which attract invalids from all parts of the continent. It is also a favorite summer resort. It has large flour mills, paper mills, and engine works, and builds ships and steamers, and manufactures saws and edge tools. The Welland and Great Western divisions of the Grand Trunk Railway cross at St. Catharines.

BRANTFORD (9,616; 12,000), on the Grand River, is a beautiful city surrounded by fertile and picturesque plains. The Buffalo and Lake Huron and the Brantford and Port Burwell divisions of the Grand Trunk Railway cross here. The manufactures of the city include agricultural implements, engines, machinery, cottons, woollens, and pottery. Brantford has a Ladies' College (Presbyterian); and it is the seat of the Ontario Institution for the Blind. The city derives its name from Joseph Brant, a famous Indian chief. Near by is a large tract of land, reserved for the use of the Six Nations Indians, to which people Brant belonged.

BELLEVILLE (9,516; 10,000) is one of the most attractive cities in the Province. Large quantities of lumber, grain, cheese, and iron ore are shipped from its port. It is the seat of Albert College (Methodist), and of the Ontario Institution for the Deaf and Dumb. It is on the main line of the Grand Trunk Railway, and it is also the terminus of a division from Peterborough, and of a branch from Madoc.

ST. THOMAS (8,367; 10,000) is an important railway centre. The Canada Southern division of the Michigan Central Railway has workshops and head offices here. It is the terminus of the Credit Valley division of the Canadian Pacific Railway; and the London and Port Stanley and Loop Line divisions of the Grand

Trunk Railway run through it. It is the seat of Alma Ladies' College (Methodist).

STRATFORD (8,230; 10,000) is at the centre of the western peninsula of Ontario. Three divisions of the Grand Trunk Railway pass through it. It has large railway workshops, and manufactures agricultural implements, machinery, and furniture extensively. Its trade in dairy produce and grain is very large.

6. Chief Towns.—The towns of Ontario are rapidly growing, and many will soon be incorporated as cities.

CHATHAM (7,873; 8,500), on the Thames river near its mouth, has a large shipping trade, the river being navigable thus far. It manufactures steam-engines, boilers, fire-engines, and wagons; and it also does some ship-building. The Erie and Huron Railway here crosses the Great Western division of the Grand Trunk. Chatham is the seat of the Wilberforce Educational Institute (colored).

BROCKVILLE (7,609; 9,000), named in honor of General Brock, who fell on Queenston Heights in the war of 1812, is most beautifully situated on the St. Lawrence. It has a large trade with the United States. Sulphuric acid, dynamite, and gunpowder, are manufactured near by. There are also manufactures of hardware and railway supplies. Brockville is the capital of the counties of Leeds and Grenville.

PETERBOROUGH (6,812; 8,000) is an agricultural and lumbering centre, and the most important place in the upper part of the Trent Valley. The Canadian Pacific Railway and the Midland division of the Grand Trunk Railway pass through it. Its situation is picturesque. Including Ashburnham, which is practically a part of it, Peterborough has a population of over 9,000.

WINDSOR (6,561; 7,000), opposite the city of Detroit (with which it is connected by steam-ferry), is a terminus of the Great Western division of the Grand Trunk Railway, and of the Canada Southern division of the Michigan Central Railway. It is the chief market for the rich farm and fruit country which lies behind it. Two miles from Windsor, and connected with it by street-railway, is SANDWICH, the county-town of Essex, and the seat of Assumption College (Roman Catholic).

PORT HOPE (5,585; 6,000), the terminus of the Midland division of the Grand Trunk Railway, has regular steamboat connection with Charlotte, near Rochester, and has a large export trade. It possesses an excellent harbor. Trinity College School (Anglican) is at Port Hope.

WOODSTOCK (5,373; 6,000) is at the centre of one of the finest farming districts in the world. The Credit Valley division of the Canadian Pacific Railway, and the Great Western division, and the Georgian Bay and Lake Erie division, of the Grand Trunk Railway, all pass through Woodstock. The manufactures include furniture, organs, and agricultural implements. Woodstock is the site of Woodstock College (Baptist).

GALT (5,187; 5,800) is known as the "Manchester of Canada." Its manufactures include engines, boilers, all kinds of mill and factory machinery, saws, edge tools, safes, woollen goods, pins, flour, and oatmeal. The Grand River, which flows through the

town, supplies abundant water-power. Near by are HESPELER and PRESTON, noted for their cotton and woollen mills.

LINDSAY (5,080; 5,300) is the centre of a rich farming country. It is the point of junction of several branches of the Midland division of the Grand Trunk Railway. The Scugog River, a tributary of the Trent, which passes through it, is navigable for barges and small steamers.

COBOURG (4,957; 5,000), the capital of the counties of Northumberland and Durham, has large car-shops. Its harbor has been made a "harbor of refuge" by the Dominion Government. Much grain and iron-ore are shipped from its port. Cobourg is the seat of Victoria University and College.

BARRIE (4,854; 5,000) has a most charming situation on Kempenfeldt Bay, an arm of Lake Simcoe. It has railway connection with Toronto and Hamilton, with the ports of the Georgian Bay, with Bracebridge, the capital of the Muskoka District, and with La Vase, on the main line of the Canadian Pacific Railway near Lake Nipissing.

GODERICH (4,564; 5,000) is the most important port on Lake Huron. The town is built on a level plain, between the Maitland River, at its mouth, and the lake, and is 120 feet above the level of the water. Its pleasant and cool situation makes it a favorite summer resort. Goderich is a terminus of the Buffalo and Lake Huron division of the Grand Trunk Railway. It has large flour mills, and extensive salt works and soap works. It has, also, a large trade in fish.

CORNWALL (4,468; 5,500) is the capital of the counties of Dundas, Stormont, and Glengarry. It has excellent water-power from the Long Sault Canal, and manufactures cottons, woollens, paper, and pottery.

COLLINGWOOD (4,445; 5,000), the principal port on Georgian Bay, is beautifully situated at the foot of the Blue Mountains. It has a large grain trade with Chicago, and a large lumber trade with all the north-shore ports of Georgian Bay. It commands much of the shipping business of Lake Superior.

OWEN SOUND (4,426; 5,320) is the terminus of a division of the Canadian Pacific Railway, and the headquarters of its steamship line. The harbor is one of the best in Ontario. Ship-building is a thriving industry. At Owen Sound is one of the best dry-docks on the lake.

INGERSOLL (4,318; 5,000) is the principal cheese market of Ontario. It manufactures agricultural implements very largely.

BERLIN (4,054; 4,500) is noted for its manufacture of buttons, felt goods, and children's toys. Adjacent to it is WATERLOO (2,066; 2,200), with manufactures of buttons, furniture, and woollen goods.

OSHAWA (3,992; 4,200) is noted for its manufacture of water-wheels, engines, stoves, threshers, scythes, forks, hoes, furniture, flour, and malleable iron.

SARNIA (3,874; 4,200), including Point Edward, with which it is connected by street-railway, has a population of over 6,000. It is the headquarters of a line of steamships that trade with the principal ports on Lake Huron and Lake Superior. Point Edward is the Canadian terminus of the main line of the Grand Trunk Railway.

STRATHROY (3,817; 4,100) manufactures agricultural implements, and knitted and woollen goods.

DUNDAS (3,709; 4,100) manufactures edge-tools, screws, paper, cottons, knitted goods, engines, and agricultural implements. An impetuous stream flowing through the town supplies it with abundant water-power. The scenery about Dundas is very picturesque.

NAPANEE (3,680; 4,000) is the terminus of the Napanee, Tamworth and Quebec Railway. It exports much iron-ore, obtained in the mineral region served by this railway. Napanee manufactures paper largely, and also window glass. It is the capital of the county of Lennox and Addington.

BOWMANVILLE (3,504; 3,800) manufactures furniture, pianos, and organs.

PETROLIA (3,465; 5,000) is noted as being the seat of the great petroleum industry of Ontario. The rock-oil district is about 70 miles long, and from one to four miles wide, and Petrolia is at the centre of it. The number of oil wells in operation is over 3,000. More than \$3,000,000 of capital is invested in the oil business. Most of the oil that is produced is refined in Petrolia, although some is refined in London and St. Thomas. In addition to its refining, Petrolia has many other businesses connected with the oil industry.

ST. MARY'S (3,415; 3,600) is at the centre of a rich agricultural district, and it has a large trade in agricultural products and live stock. It has flour, oatmeal, woollen, and flax mills. Near it are extensive quarries, and it exports much limestone and building stone. A branch of the Grand Trunk Railway connects it with London.

PARIS (3,173; 3,400), supplied with water-power by the Grand River, has the largest woollen factories in the Dominion. It has also flour mills of large capacity, and it manufactures carpets. Near it are extensive deposits of gypsum, from which much plaster is made and exported.

WHITBY (3,140; 3,300) has a fine harbor; and a railway to the north, serving one of the richest agricultural districts in the Province, enables it to do a large grain business. It also exports a great deal of lumber. It is the seat of the Ontario Ladies' College (Methodist).

TRENTON (3,042; 3,500) has a large lumber and shipping trade, and manufactures flour and paper. It has steamboat connection with Belleville and Picton. The Central Ontario Railway connects it with a rich mineral region, and enables it to export much iron-ore.

PRESCOTT (2,999; 3,200), by its railway ferry to Ogdensburg, enables the Grand Trunk and Canadian Pacific Railways to make connections with the American railway system. All river and lake steamboats call at Prescott.

PICTON (2,975; 3,200) is beautifully situated on an arm of the Bay of Quinte. It has steamboat connection with Belleville and Kingston. It is the terminus of the Ontario Central Railway, which, running through the county of Prince Edward, one of the best for grain and fruit in the Province, enables it to do a large export business.

BRAMPTON (2,920; 3,200) is at the centre of a fine wheat-growing district, and it exports much grain and other farm produce.

ORILLIA (2,910; 3,200) on Lake Couchiching, is one of the most picturesquely situated towns in the Province, and is much resorted to by tourists. It is connected by railway with both Toronto and Port Hope. The Provincial Asylum for Idiots is situated at Orillia.

KINCARDINE (2,876; 3,000), **CLINTON** (2,606; 2,800), and especially **SEAFORTH** (2,480; 2,600) are all noted for their salt wells. Underneath Seaforth are extensive beds of pure rock-salt many feet thick.

GANANOQUE (2,871; 3,000) has magnificent water-power, and is one of the most important manufacturing towns in the Province. Among its manufactures are agricultural implements and tools, bolts, nails, hinges, carriage-springs, machinery, and woollen goods.

ORANGEVILLE (2,847; 3,000), **SIMCOE** (2,645; 2,800), and **WALKERTON** (2,604; 2,700) are county-towns with local manufactures and exports of grain and live stock.

PEMBROKE (2,820; 3,300) is the county-seat of Renfrew, and the most important place in north-eastern Ontario. It has a large lumber trade.

LISTOWEL (2,688; 2,800), **ALMONTE** (2,684; 3,000), **THOROLD** (2,456; 2,700), and **MITCHELL** (2,284; 2,400) are all manufacturing towns. Almonte is noted for its extensive woollen mills and knitting works. Thorold is noted for its flour mills, its cement works, and its building-stone quarries. Mitchell has flax mills.

AMHERSTBURG (2,672; 2,800) is a terminus of the Canada Southern division of the Michigan Central Railway. It is, next to Kingston and Niagara, the oldest place in Ontario. It possesses extensive limestone quarries.

PERTH (2,407; 3,200) is noted for its export of phosphate of lime, of which more than 3,000 tons are shipped annually. Mica and plumbago, also, are found near the town.

NIAGARA FALLS (2,247; 2,800), a little to the north of the famous cataract, is a terminus of the Canada Southern division of the Michigan Central Railway, and also of the Great Western division of the Grand Trunk Railway. Across the Niagara River at this point are the famous Cantilever and Suspension Bridges, worked by the former and the latter of these railways respectively.

MOUNT FOREST (2,170; 2,500), **ARNPRIOR** (2,147; 2,500), **SMITH'S FALLS** (2,087; 2,200), **NEWMARKET** (2,006; 2,200), **DRESDEN** (1,979; 2,100), **CARLETON PLACE** (1,975; 2,400), **TILSONBURG** (1,939; 2,000), **HAWKESBURY** (1,920; 2,100), **WINGHAM** (1,918; 2,200), **WELLAND** (1,870; 2,200), **MEAFORD** (1,866; 2,000), **PALMERSTON** (1,828; 2,000), **UXBRIDGE** (1,824; 2,000), **DUNNVILLE** (1,808; 2,000), **PORT PERRY** (1,800; 2,000), **MERRITTON** (1,798; 2,070), **HARRISTON** (1,772; 2,000), **FERGUS** (1,733; 2,000), **PORT COLBORNE** (1,716; 2,000), **EXETER** (1,725; 2,000), **MORRISBURG** (1,719; 2,000), **OAKVILLE** (1,710; 2,000), **RENFREW** (1,605; 2,000), **BRIGHTON** (1,547; 2,000), **AYLMER** (1,540; 2,000), **PARKHILL** (1,539; 2,000), **RIDGETOWN** (1,538; 2,400), **DESERONTO** (2,000).

LESSON XXIV.

QUEBEC.

1. Position, Size, and Population.—Quebec may be said to consist of the valley of the lower St. Lawrence. It has an area of nearly 190,000 square miles. Its population is about 1,400,000.

2. Boundaries, Physical Features, and Subdivisions.

To the Teacher.—Teach the boundaries from the map: the northern boundary is the Height of Land. Teach from the map the main coast features—the bays, gulfs, islands, capes, etc.; also the main surface features. The whole of Quebec north of the St. Lawrence, with the exception of a narrow strip along the St. Lawrence and the lower Ottawa (somewhat wider, however, behind Montreal), is Laurentian; and hence is a rocky and hilly region, abounding in lakes and rivers, but everywhere it is well wooded, and it contains much mineral wealth. South of the St. Lawrence, the western part is a slightly undulating expanse of good agricultural land. The remainder is almost entirely occupied by the Appalachian Plateau, extending to the Peninsula of Gaspé. Though in parts hilly, and even mountainous—as, for example, in the Notre Dame Mountains, and in the Shickahook Mountains—yet this region also is well wooded and well watered, and has many excellent agricultural stretches, especially in the river valleys; it also has rich stores of minerals.—The courses of the great rivers which flow into the Ottawa and the St. Lawrence should be traced on the map.—If the counties be taught, let them be taught from the map also, arranged in groups. The twelve counties, Missisquoi, Brome, Shefford, Drummond, Stanstead, Sherbrooke, Richmond, Arthabaska, Compton, Wolfe, Megantic, and Beauce, are usually called the Eastern Townships. These counties comprise many fertile agricultural areas. It is in them, principally, that the people of British origin live.

3. Soil and Climate.—Although so much of the surface of Quebec is hilly and rocky, yet along the St. Lawrence, and in the Eastern Townships, and in all the districts about Montreal, there is a great deal of land well suited to agriculture. In these fertile parts, beet-root, flax, and tobacco, are largely cultivated, besides the ordinary grains and fruits. Winter in Quebec is longer and colder than in Ontario, but healthful and not unpleasant; summer is shorter, but quite as hot as in Ontario, and with an abundance of rain, so that vegetation is vigorous and rapid.

4. Occupations of the People and Industries.

—A large part of Quebec is still covered with forest, hence lumbering is the chief industry of the province. Immense quantities of lumber are sent to England, the United States, and other countries, every year. Quebec has also a great fishing industry: for, in addition to the fine fish which may be obtained in its innumerable lakes and rivers, its fisheries in the River St. Lawrence, and in the Gulf of St. Law-

and **ESSEX CENTRE** (2,000), are all rapidly growing towns, with local manufactures, and a large agricultural trade. Smith's Falls has malleable-iron works. At Carleton Place are workshops of the Canadian Pacific Railway. Near by lead is found. Arnprior is noted for its beautiful marble, and near it are rich iron mines. Merriton has large paper, cotton, and flour mills. Port Colborne does ship-building. Deseronto manufactures lumber in large quantities. Tilsonburg has famous flour mills.

BRACEBRIDGE (1,500) is the most important place in the Muskoka District. Near it are the famous Muskoka lakes, so much resorted to by tourists. The scenery about these lakes is beautiful, and they abound in trout, maskinonge, pickerel, bass, and other fish much prized by sportsmen.

PARRY SOUND (1,500) is the most important place in the Parry Sound District, and is its capital. It has an excellent harbor. It is the depot for a magnificent timber district, and manufactures immense quantities of lumber.

PORT ARTHUR (1,500) is the most important place in the Thunder Bay District. It has a fine, well-protected harbor, and excellent docks, and large elevators for storing and shipping grain. It is the western terminus of the steamboat routes from Collingwood and Owen Sound, and a chief point on the Canadian Pacific Railway. It exports a great deal of fish. The surrounding district is rich in minerals.

SAULT STE MARIE (780; 1,200), beautifully situated on the north bank of the St. Mary River, below the rapids, is the capital of Algoma District. It is much resorted to by tourists.

NIAGARA FALLS SOUTH (1,000) is annually visited by thousands of tourists from every part of the world, who come to see the wonderful Falls of Niagara. On the site of the town was fought the battle of Lundy's Lane, in 1814. Near by is the Loretto Academy (Roman Catholic).

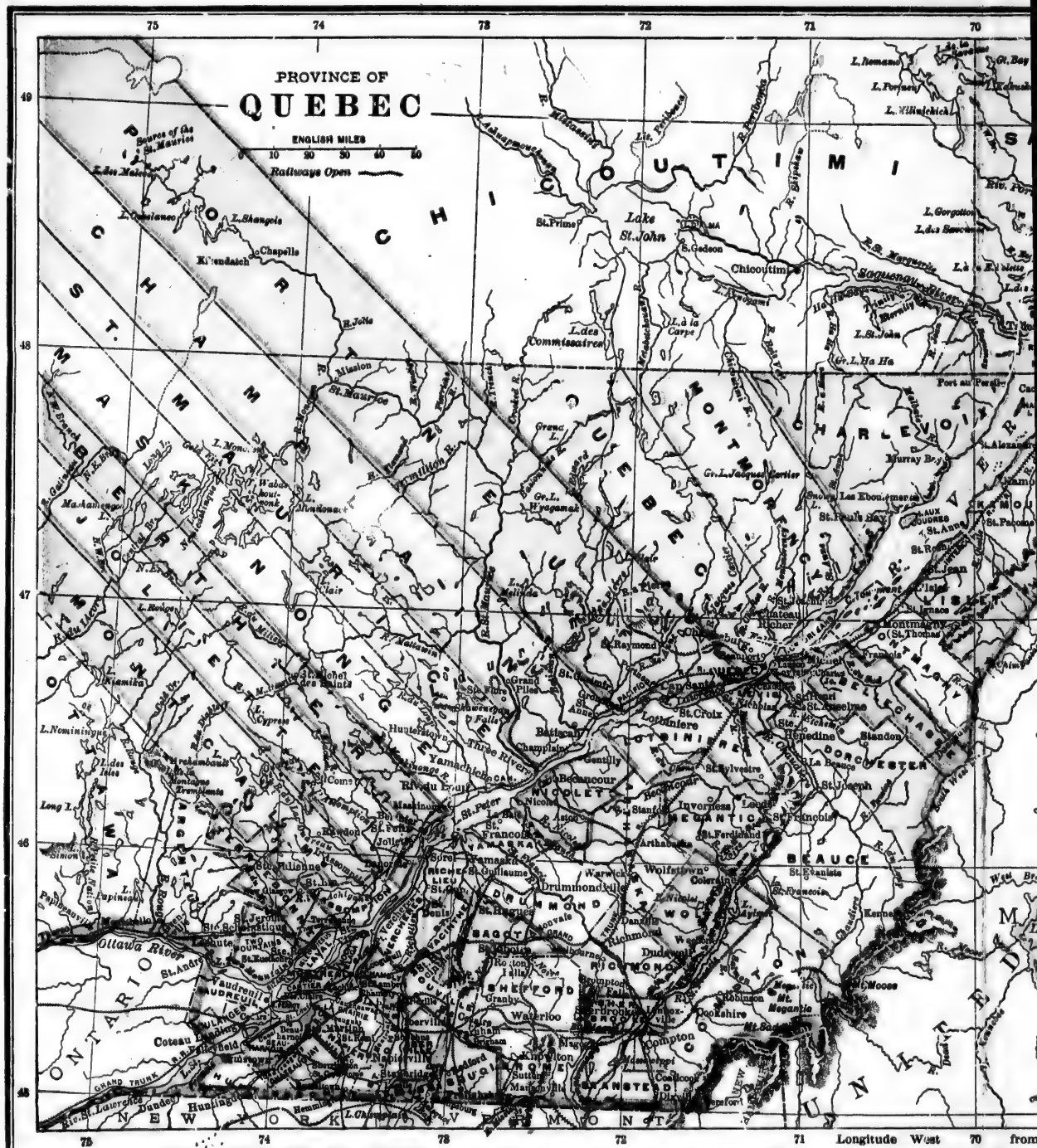
NORTH BAY (1,000), on Lake Nipissing, and **MATTAWA** (1,000), at the confluence of the Mattawa and Ottawa Rivers, are the chief places in Nipissing District. They are each the centre of a great lumber industry. Mattawa is an old Hudson Bay Company post.

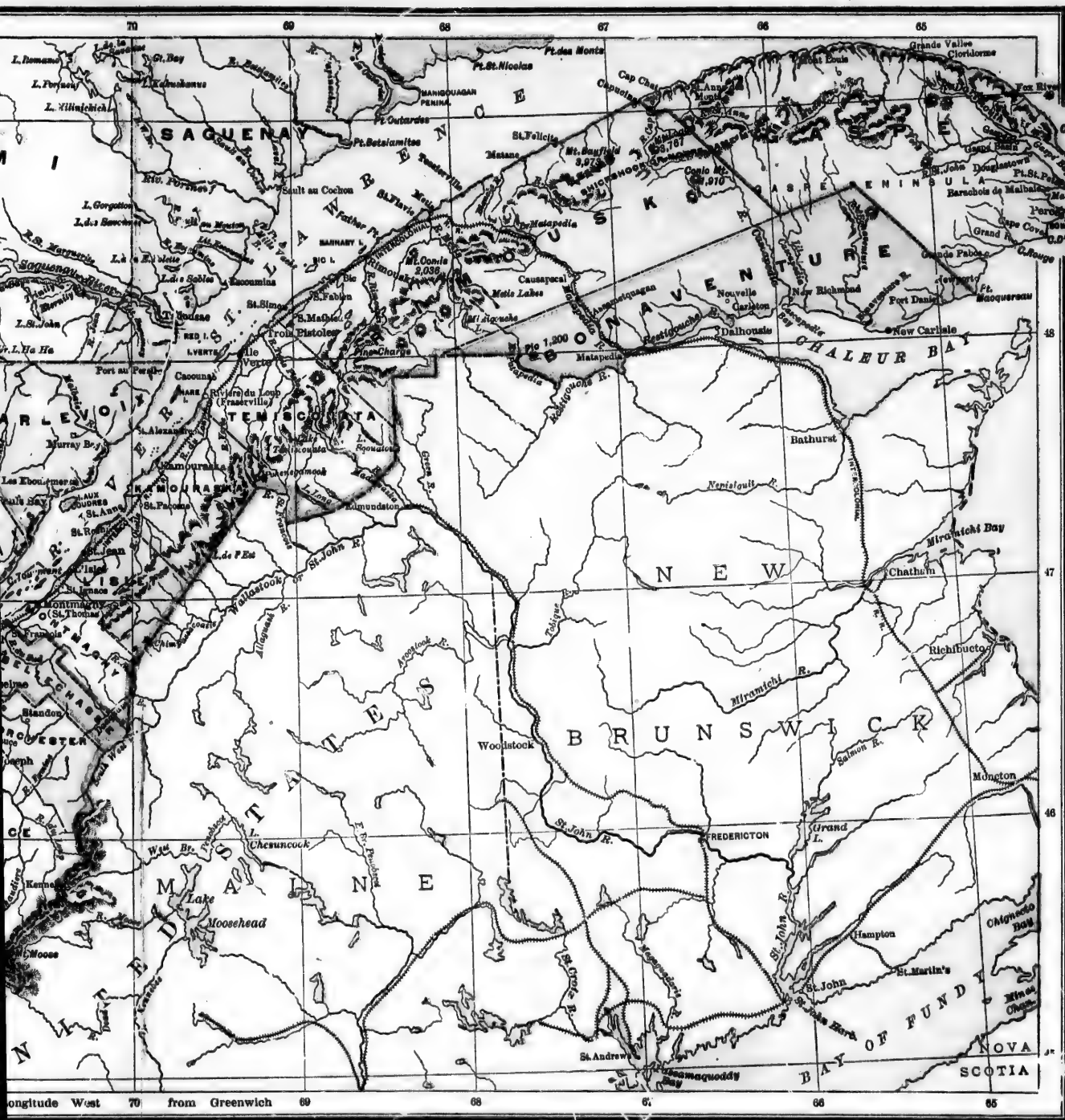
HALIBURTON is the chief place in the county of Haliburton. It is the terminus of a branch of the Midland division of the Grand Trunk Railway. **MINDEN**, 18 miles to the south-west, is the county-seat.

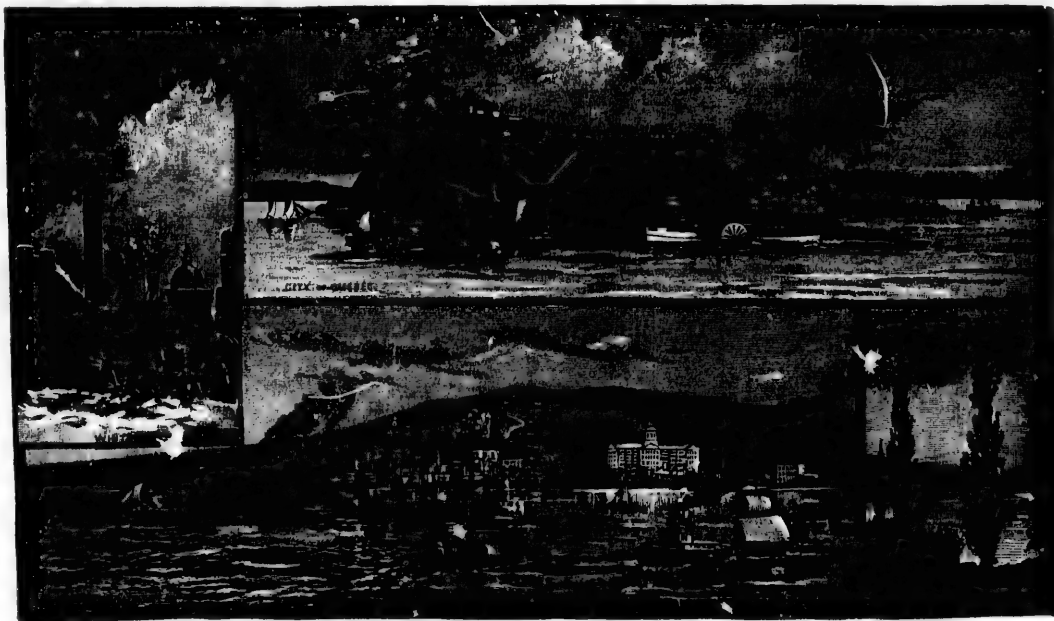
RAT PORTAGE, at the north end of the Lake of the Woods, is the capital of the Rainy River District. It is noted for its beautiful scenery. It possesses abundant water-power, and manufactures immense quantities of lumber.

MANITOWANING (1,000) is the chief port of Manitoulin Island. It exports grain and cattle, and is a favorite summer resort.

Exercise.—1. Write an account of Toronto. 2. Trace on the map the routes of the railways running out from Toronto. 3. Trace on the map the steamboat routes which start from Toronto. Do the same for Collingwood, Owen Sound, and Sarnia. 4. Give an account of Ottawa. Why should it have been chosen as the capital of Canada? 5. Point out on the map all the places noted for the manufacture of lumber? 6. Point out on the map the salt district, and also the oil district, of the Province. Point out, also, the chief mineral district.







VIEWS OF MONTREAL AND QUEBEC.

rence, are among the most celebrated in the world. The value of the fish (cod, mackerel, herring, salmon, etc.), and of the lobsters and seals, annually taken, is over two and a half million dollars. The St. Lawrence being navigable as far as Montreal for ships of all but the largest size, the people of Quebec are much engaged also in seafaring. The shipping trade of the St. Lawrence is one of the largest possessed by any river in the world. Ship-building, too, is an important industry. Although agriculture is followed in most parts of Quebec, yet, owing to the length and severity of the winter seasons in the north, the only districts that can properly be called agricultural are the southern portions, especially the Eastern Townships. Mining is a growing and important industry. Iron is found on the St. Maurice; gold is found on the Chaudière, in Beauce County; excellent copper-ore is mined in the Eastern Townships; of apatite (phosphate of lime) there is an almost inexhaustible supply in Ottawa County; in the same county mica is mined. Lead, silver, zinc, and platinum, also, occur. As in Ontario, the cities and towns are largely engaged in manufactures. The refining of cane sugar,

and the making of sugar from the beet-root, are among the principal of these.

5. People, Religion, Education, and Government.—About three-fourths of the people of Quebec are of French origin; and throughout the Province it is the French language that is most used, although English also is spoken in all the towns and cities. About six-sevenths of the people belong to the Roman Catholic Church. Education is well attended to, and is aided by the Government. There are two classes of schools—Roman Catholic and Protestant—and these are of all grades. There is no provincial university; but the universities of McGill College, at Montreal, Bishop's College, at Lennoxville, and Laval' (Roman Catholic), at Quebec, are very efficient institutions. The Government of Quebec is similar to that of Ontario, but there is, in addition, a Legislative Council of 24 members, appointed for life by the Lieutenant-Governor. That is to say, the Legislature consists of a Lieutenant-Governor, the Legislative Council, and a Legislative Assembly; and the government is administered by the Lieutenant-Governor, with the assistance of an Executive Council.

6. Cities.—There are six cities in Quebec.

MONTREAL (140,747; 200,000) is the largest city of the Dominion, and its commercial metropolis. Including the suburbs, its population approaches 200,000. It is beautifully situated on the island of Montreal. Behind it rises Mount Royal, whence it derives its name. The public buildings of the city are very fine, and are much visited by tourists, especially Notre Dame Cathedral, which can hold 10,000 people; and St. Peter's Cathedral, which is 300 feet long and 225 feet wide. Other public buildings are the City Hall, the Customs' House, and McGill College. There are two normal schools, several medical schools, and numerous theological colleges and seminaries. The manufactures of the city are very important, and include railway cars and locomotives, hardware, boots and shoes, clothing, india-rubber goods, woodenware, paints, glass, cottons, woollens, fur goods, and sugar. Montreal possesses excellent facilities for trade. Ocean steamers and sailing vessels in summer readily ascend the river to its port. It is the headquarters of the Allan line and the Dominion line of steamers. The principal offices and workshops of the Canadian Pacific and Grand Trunk Railways are situated in Montreal. Victoria Bridge, which is nearly two miles long and cost \$6,000,000, enables the trains of the Grand Trunk Railway to cross the river. A magnificent steel bridge, more than two-thirds of a mile long, over the Lachine Rapids, is used by the Canadian Pacific Railway. Several lines of railway running to the United States start from Montreal. The city is very old. Champlain selected its site as a fit place for a city in 1611; but the 19th of May, 1642, was its real birthday.

QUEBEC (62,446; 65,000) is a quaint old town, with a foreign aspect. It was founded by Champlain in 1608. The commanding site of its famous citadel and its strong fortifications have gained for it the title, "the Gibraltar of America." It may be said to possess the key of the St. Lawrence. Quebec consists of two parts—the Lower Town, close to the river, where the trade of the city is carried on; and the Upper Town, on the heights above. It was on these heights, on the Plains of Abraham, that the battle was fought, in 1759, by which Canada was lost to France, and became a British possession. Quebec is the second city in the Province of Quebec, and the third in the Dominion. Its shipping trade, its ship-building, and its timber trade are very important. The passengers of ocean steamers are taken on and put off at Quebec, though the steamers themselves ascend as far as Montreal to unload and receive their freight. Quebec is the terminus of the eastern division of the Canadian Pacific Railway, which runs from Ottawa, Montreal, and Three Rivers; and a division of the Grand Trunk Railway from Montreal has its terminus at Point Lévis (lay-vee) opposite Quebec. From Point Lévis, too, the Intercolonial Railway starts, which, after skirting the south shore of the St. Lawrence to Rimouski (oo), then runs south-eastward to St. John in New Brunswick, and Halifax in Nova Scotia. Quebec was long the capital of Canada, and it is a place of great historical interest. It is the seat of the University of Laval, and it has a cathedral (Roman Catholic) capable of holding 4,000 people. Around the city is some of the finest scenery in the world. Near by are the beautiful and famous

Falls of Montmorenci. LEVIS and POINT LEVIS may be considered suburbs of Quebec. If their population, 9,000, be included, Quebec may be considered a city of nearly 75,000 people.

THREE RIVERS (8,670; 10,000) derives its name from the triple mouth of the St. Maurice, where it is situated. It is exactly midway between Montreal and Quebec. It is a very old French town, having been founded in 1618, next after Quebec. Its cathedral is one of the finest edifices in America. Three Rivers has important iron works, and has a large trade in the lumber which comes down the St. Maurice, a river 400 miles long. Twenty-four miles up the St. Maurice are the Shawenegan Falls, 150 feet high.

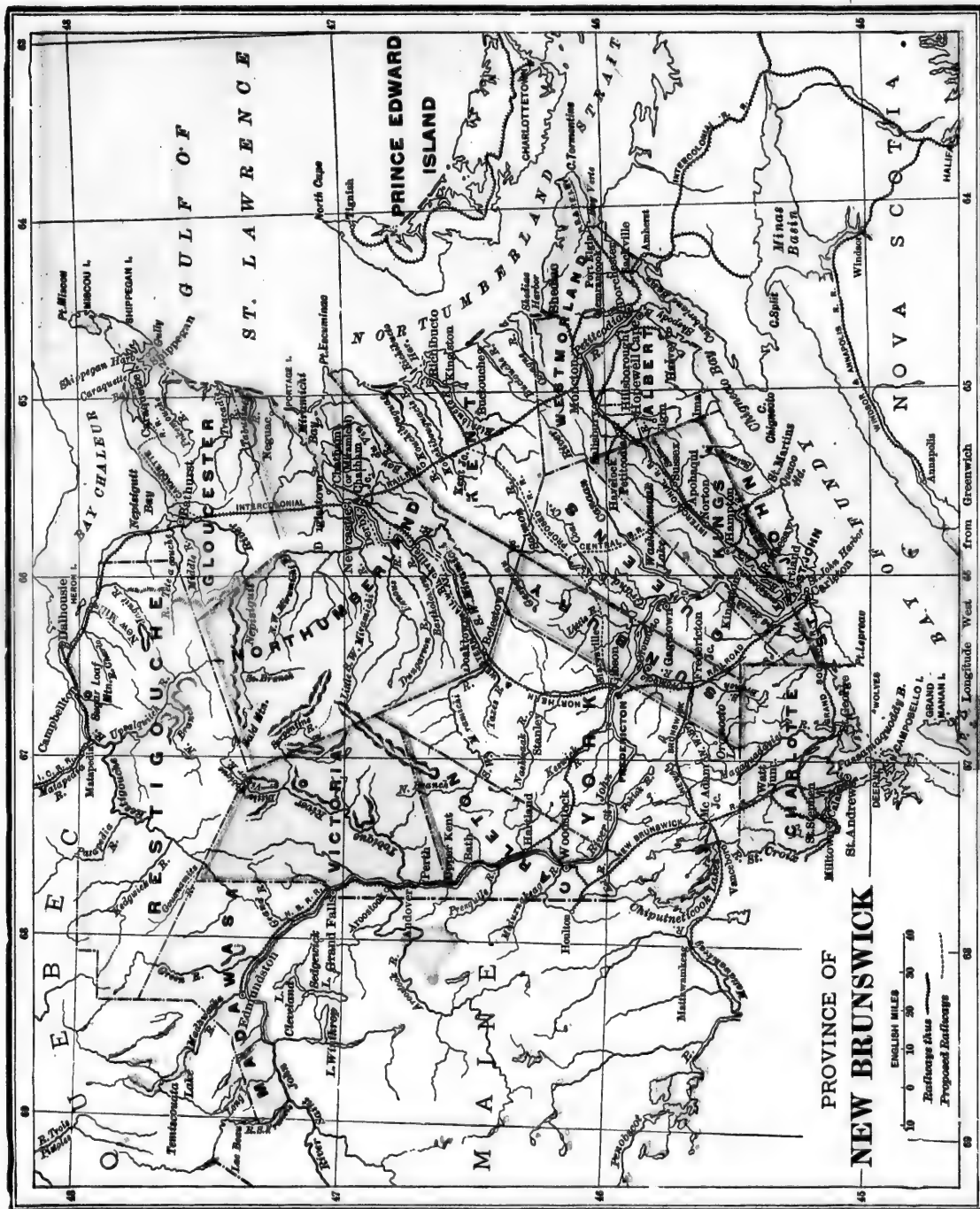
SHERBROOKE (7,227; 8,000), at the junction of the Magog (which empties Lake Memphremagog) with the St. Francis, is the chief town of the Eastern Townships. It has abundance of water-power, and its mills and factories are numerous. It has large manufactures of woollen and cotton goods, and hardware. By the Grand Trunk Railway it has connection with Montreal, Quebec, and Portland in Maine. Near by is LENNOXVILLE, the seat of Bishop's College.

HULL (6,890; 8,000), opposite Ottawa, has a large lumber trade, and manufactures matches and woodenware extensively. Near it are valuable iron mines.

ST. HYACINTHE (5,321; 6,000), where the Grand Trunk Railway crosses the Yamaska, is the seat of a Roman Catholic college and cathedral.

7. Chief Towns.—**SOREL** (5,791; 6,500), at the mouth of the Richelieu (reesh-el-yoo'), is a very old town. It manufactures engines, mill-machinery, and stoves. The Richelieu is the outlet of Lake Champlain. By aid of the Chambly Canal, and of the Champlain Canal, there is a continuous waterway along the Richelieu, Lake Champlain, and the Hudson River, from the St. Lawrence to the city of New York, the commercial metropolis of the United States. **VALLEYFIELD** (3,906; 4,500), on Lake St. Francis, has many important manufactures, including that of paper. **RIMOUSKI** (oo) (1,417), **CACOUNA** (oo), **TADOUSSAC**, and **MURRAY BAY**, on the St. Lawrence below Quebec, are favorite summer resorts. At Rimouski the largest ocean vessels can safely harbor. **CHICOUTIMI** (oo) (1,935) and **HA HA BAY** are visited every year by thousands of tourists, who ascend the Saguenay to enjoy the grand and imposing scenery of that river. Into their harbors the largest ocean vessels easily enter. **ST. JOHN'S** (1,814), **NICOLET** (né-cô-lâ) (3,764), **LAUZON** (ô) (3,556), **JOLIETTE** (3,268), **COATICOOK** (2,682), **LONGUEIL** (2,350), **FAR-SERVILLE** (2,201), **BERTHIER** (2,156), **ST. JEROME** (2,032), **FARNHAM** (1,880), **ACTONVALE** (1,861), **IBERVILLE** (1,847), **SHAWVILLE** (1,827), **AYLMER** (1,762), **MONTMAGNY** (1,738), **WATERLOO** (1,617), **RICHMOND** (1,571), **CHAMBLY** (1,506), **BUCKINGHAM** (1,479), and **GATINEAU** (1,460), are all rapidly-growing towns.

Exercise.—1. Trace on the map the courses of the principal rivers of Quebec. 2. Why are so many people in Quebec of French descent? 3. Trace on the map the railway system of the Province. 4. Point out on the map the mineral districts, and specify the minerals found in each. 5. Point out on the map the cities and towns mentioned in the text. 6. Account for the commercial supremacy of Montreal. 7. Describe Quebec City.





SCENES IN NEW BRUNSWICK.

LESSON XXV.

NEW BRUNSWICK.

1. Position, Size, and Population.—New Brunswick lies between Quebec and Nova Scotia. It is connected with the latter Province by the isthmus of Chignecto. It is about 210 miles long from north to south, and 180 miles wide from east to west. Its area is nearly 28,000 miles. It has a coast-line of about 500 miles, deeply indented with many fine bays and harbors. Its population is about 325,000.

2. Boundaries, Physical Features, and Sub-divisions.

To the Teacher.—Teach the boundaries from the map; also the physical features. In the north-west, notice the mountains which form the watershed between the St. Lawrence and the St. John. These are 2,000 feet high. They form the beginning of the great Appalachian chain. The country consists of river valleys;—teach the names of the more important of these. The valley of the St. John is the largest; it occupies more than half the Province. Notice the watershed, running north-west and south-east, which separates it from the other valleys. The Restigouche (200 miles long), the Miramichi (aheé) (220 miles), the Petitcodiac (100 miles), and the St. John (450 miles), are all navigable for some distance from their mouths. The counties may be taught, in groups, from the map.

3. Soil and Climate.—The soil, especially along the rivers, is productive. The climate is healthful. In

the coast districts the winters are milder and the summers less hot than in Ontario, but the springs are subject to dense fogs. In inland districts the climate resembles that of Quebec. The rainfall is everywhere abundant.

4. Occupations of the People and Industries.

—The production of lumber—spruce and pine, and timber for ship-building—is the chief occupation of the people. The mineral products of the Province are also very valuable,—coal, iron, gypsum, and building stone. Lime is an important export. The principal coal mines are in Queen's County. In Albert County is found a valuable sort of coal, called Albertite. The fisheries are very valuable. They produce cod, herrings, salmon, smelts, sardines, oysters, and lobsters. These are exported to all parts of the world, especially to England and to the West Indies. The shipping trade, also, of New Brunswick is very extensive. Agriculture is becoming more general as the forests disappear under the efforts of the lumbermen. The manufactures, in addition to ship-building, are principally of hardware, leather, cottons, woollens, railway supplies, mill machinery, and engines.

5. People, Religion, Education, and Government.—The people are mostly of British and Irish

descent. The Province, however, with Nova Scotia, once belonged to France, and one-sixth of the population are of French descent. More than one-third are of the Roman Catholic religion. Education is under the control of the Government, and is well attended to. The common schools are free to all, as in Ontario. There is a Provincial University, and also a Provincial Normal School,—both at Fredericton. The constitution of the Provincial Government and Legislature is the same as in Quebec; that is to say, the Legislature consists of a Lieutenant-Governor, a Legislative Council, and a Legislative Assembly; and the government is administered by the Lieutenant-Governor, with the assistance of an Executive Council.

6. Cities and Chief Towns.—**ST. JOHN** (26,127; 30,000) and **PORTLAND** (15,226; 18,000), though distinct in name and in government, are in reality one city, situated at the mouth of the St. John River. The river, which farther up is of considerable width and expanded into lakes, is here much contracted by high rocky shores, and is called the Narrows. Through this gorge the tide flows with great violence, rising thirty feet. Farther up the Bay of Fundy the tide rises even seventy feet. (*To the Teacher.*—Explain the motions of the tides.) The harbor, however, is excellent, accessible to ships of the largest size, and remaining perfectly free from ice all winter. In respect of shipping, St. John is the principal port of the Dominion, and the fourth in the British Empire. The fisheries and ship-building of the two cities are very extensive industries. Lumber, fish, lime, and plumbago, are chief exports. There are, also, numerous cotton mills, saw mills, and iron works. The Coldbrook rolling mills are the finest in the Dominion. **CARLETON** (3,166; 5,200), on the opposite side of the river, forms a part of St. John. A magnificent suspension bridge spans the Narrows at Portland; the view obtained from it is unsurpassed on the continent. In 1877, three-fourths of the business portion of St. John was destroyed by fire. This was soon rebuilt. St. John is connected by a division of the Intercolonial Railway with Moncton on the main line, and thus with Quebec and Halifax. By the New Brunswick Railway it is connected with Fredericton, Woodstock, and Edmundston, and with the railway system of Maine.

FREDERICTON (6,218; 7,000) is the capital. In it are the Government Buildings, and it is the seat of the University of New Brunswick, and of the Provincial Normal School. Fredericton has a large lumber trade and owns much shipping. Ordinarily the city is at the head of navigation for the St. John; but in times of flood the river is navigable to Grand Falls, 225 miles from the sea, where it tumbles precipitously down a perpendicular wall of rock 75 feet high.

MONCTON (5,032; 5,500) is an important manufacturing town, and the headquarters of the Intercolonial Railway. **CHATHAM**, or **MIRAMICHI**, (3,000) and **Newcastle** (2,000) are engaged largely in ship-building, the fisheries, and the shipment of

lumber. **WOODSTOCK** (2,500) is a lumbering town. Magnificent iron-ore is found near Woodstock. **ST. GEORGE** (3,412), **ST. STEPHEN** (2,338), and **ST. ANDREWS** (2,128) have considerable trade with the United States. **RICHIBUCTO** and **SHEDIAC** are noted for their fisheries and oyster beds. **SACKVILLE** is the seat of Mount Alison College (Wesleyan); **MEMRAMCOOK**, that of the Catholic College of St. Joseph. At **DORCHESTER** is the Penitentiary for the Maritime Provinces. Albertite, or "jet coal," is mined near Dorchester. It is used in the manufacture of gas. At **MARYSVILLE** is the largest cotton factory in the Dominion; also the largest factory for knitted goods.

Exercise.—1. Draw an outline map of New Brunswick. Mark on it the chief bays, rivers, and towns. Draw in the courses of the railways. 2. Where are Bay Verte, Cumberland Basin, Passamaquoddy Bay, St. Croix (kroy) River, and River St. Francis? 3. Where are Salmon River, Grand Lake, and Grand Falls? 4. What are the chief occupations of the New Brunswickers? Why are they so much engaged in lumbering and fishing? Why should ship-building be an important industry? Why is lime a principal export? What is lime? What is gypsum? 5. Describe the railway system of the Province. 6. Describe the educational system. What are the chief educational institutions? 7. Why should Dorchester, rather than Woodstock, say, have been chosen for the site of the Penitentiary? 8. Explain the difference between the Provincial Legislature and that of Ontario.

LESSON XXVI.

NOVA SCOTIA.

1. Position, Size, and Population.—Nova Scotia lies at the extreme south-east of the Dominion. It is connected with New Brunswick by the isthmus of Chignecto, only 14 miles wide. The Province includes, besides the peninsula of Nova Scotia, the island of Cape Breton. Cape Breton is separated from the mainland by the Gut of Canso, a strait 15 miles long and two miles wide. The total length of the Province is 350 miles; its breadth, from 65 to 100 miles. The area is about 21,000 miles, or three-fourths that of New Brunswick. Nova Scotia, of all the provinces, has the longest coast-line; it is 1,500 miles long. The population is about 450,000.

2. Boundaries, Physical Features, and Subdivisions.

To the Teacher.—Teach these from the map. Of the many bays and harbors by which the Atlantic coast-line is broken, teach only the most important. The Bay of Fundy coast, west of Minas Basin, is precipitous. Off the south-western extremity of the Province is a line of reefs, very dangerous to navigation. The surface of the country generally is hilly. Notice the direction and extent of the Cobequid Mountains (whose principal summits are 1,100 feet high), and the parallel ranges of the North and South Mountains. Notice, and account for, the absence of large rivers.

Magnifi-
(3,412),
siderable
DIAC are
the seat
that of
ER is the
or "jet
ufacture
y in the

unswick.
w in the
umberland
nd River
ake, and
the New
umbering
industry?
What is
Province.
ef educa-
her than
Peniten-
tial Legis-

—Nova
ion. It
mus of
cludes,
of Cape
ainland
and two
is 350
area is
Brunsw-
longest
tion is

Sub-

ays and
at impor-
Of the
erous to
he direc-
are 1,100
Notice,



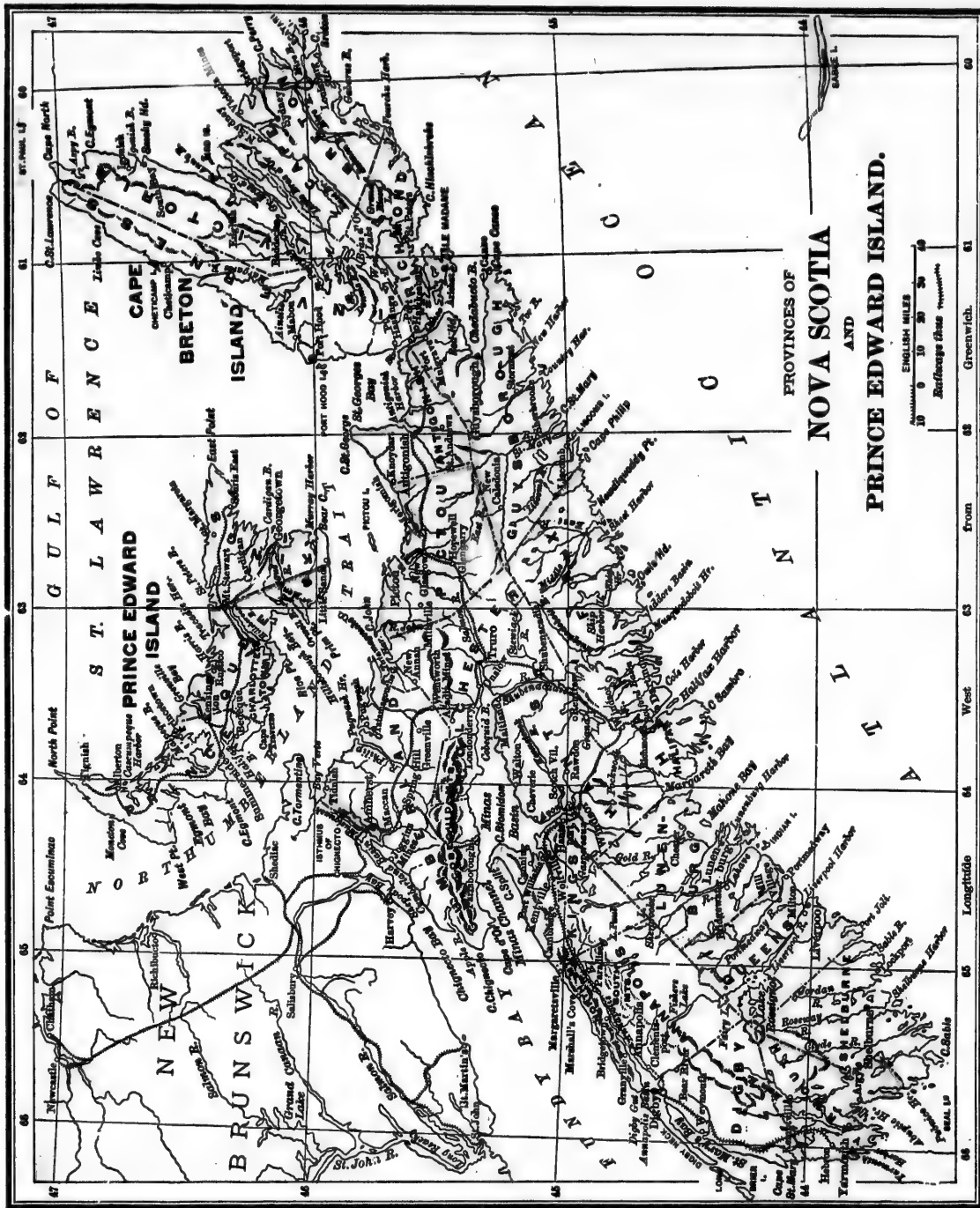
SCENES IN NOVA SCOTIA.

3. Soil and Climate.—The soil in the valleys is rich, but on the highlands it is light and poor. To the north of the central watershed the land is much more fertile than along the Atlantic coast, where it is rocky. The Annapolis valley, between North and South Mountains, is the finest part of Nova Scotia, and is famous for its fruit. Along Minas Basin and Cumberland Basin large tracts of marsh land have been reclaimed from the sea by means of dykes; these are of inexhaustible fertility. The climate of Nova Scotia is very temperate, being less subject to extremes than even that of New Brunswick; and it is remarkably healthy. In winter, however, frequent sudden variations of temperature occur, and in spring, on the north-eastern coasts, dense fogs prevail.

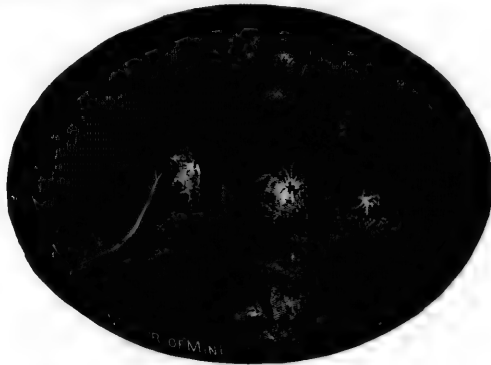
4. Occupations of the People and Industries.—Nova Scotia ranks first among the provinces in respect of minerals, fisheries, and ship-building. More than 1,500,000 tons of coal are mined annually. The principal coal mines are in Cape Breton, and in Pictou and Cumberland Counties. More gold is obtained than in any other province except British Columbia. It is found chiefly in Guysboro', Halifax, and Hants Counties. Iron is abundant in the Cobequid Mountains, in Colchester County. The gypsum beds of Nova

Scotia are unequalled in the world for richness and extent. Building stone, lime, slate, and granite, also, are plentifully obtained. All these minerals are largely exported. Copper, too, is found in small quantities. With the exception of Newfoundland, Nova Scotia has the finest fisheries in the world. The value of the fish taken in one year (cod, mackerel, salmon, herring, shad, halibut) is sometimes eight millions of dollars. It is along the coasts of the Atlantic counties and of Cape Breton that the fisheries are most profitable; the northern counties are for the most part engaged in agriculture. The agricultural products of the Province are the same as in Ontario. Ship-building is prosecuted on all the coasts; the forests in the interior supply the necessary timber. Nova Scotia has an important foreign trade, and has much capital invested in shipping—more, in proportion to its population, than any other country. In the towns are important manufactures, including "home-spun," blankets, tweeds, leather, boots and shoes, furniture, agricultural implements, heavy machinery, and sugar.

5. People, Religion, Education, and Government.—Although the people are mostly of British and Irish descent, yet in the western counties, and in the



counties adjacent to the Strait of Canso, are many Acadians, or descendants of the French who occupied the country when it belonged to France, and—with the settlements in Cape Breton, New Brunswick, and Prince Edward Island—was called Acadia. In Lunenburg are many Germans. About three-fourths of the people of the Province are Protestants; one-fourth Roman Catholics. Education is aided by the Government, as in Ontario. The public schools are free to all. Dalhousie College, at Halifax, is also maintained by the Government. There are four other colleges. Like Quebec and New Brunswick, Nova Scotia has a Legislative Council, whose members are appointed by the Lieutenant-Governor. In other respects the government of the Province is similar to that of Ontario.



6. City and Chief Towns.—HALIFAX (36,054; 43,000), the only city in the Province, is the capital. It has a large and safe harbor, open all the year round, and is called the "winter port" of Canada. It is the terminus of the Intercolonial Railway. By the Annapolis Railway it is connected with Windsor, Annapolis, and Yarmouth. It is also connected with Pictou, Antigonish, and other towns in the east. Next to Quebec, Halifax is the most strongly fortified town in the Dominion. It is the only station for British troops in Canada. It is also the chief naval station of the North American and West Indian fleets of Great Britain, and has one of Her Majesty's dockyards, the finest in the British colonies. In respect of shipping it is the third port of the Dominion, and it has an important trade with the West Indies. Halifax is the seat of Dalhousie College (Provincial) and of St. Mary's College (Roman Catholic). To the north of Halifax harbor is Bedford Basin, capable of containing all the navies of the world. DARTMOUTH (3,786), the chief suburb of Halifax, about a mile distant, on the opposite side of the harbor, manufactures engines and heavy machinery, and is the seat of the Provincial Lunatic Asylum. RICHMOND, another suburb, manufactures fuse, powder, nails, engines, and pianos, and has large sugar refineries.

YARMOUTH (7,000), LUNENBURG (4,000), and LIVERPOOL (3,500) are all extensively engaged in fisheries, lumbering, and ship-building; and all have a large amount of shipping, and a brisk foreign trade. In respect of shipping, Yarmouth is the second port in the Dominion, and in respect of ship-building it is the first. DIGBY has important fisheries. ANNAPOLIS is the oldest town in Nova Scotia. As Port Royal, it was the capital of the French colony, Acadia. WINDSOR (3,019; 3,500) exports large quantities of gypsum, and is the seat of King's College (Episcopalian). WOLFVILLE is the seat of Acadia College (Baptist). TRURO (3,461; 4,500) is the seat of the Provincial Normal School. From Truro a branch of the Intercolonial Railway runs to Pictou, Antigonish, and the Strait of Canso. ANTIGONISH is the seat of St. Francis Xavier's College (Roman Catholic). PICTOU (3,403; 4,000) and NEW GLASGOW (2,505; 3,000) are important commercial and ship-building towns, possessing much shipping. They export a very great deal of coal. SHELBURNE (2,055) has the best harbor in the Province. AMHERST (2,000) is engaged in the lumber trade and in ship-building.

SYDNEY (6,000) was once the capital of the colony of Cape Breton. It is the centre of an extensive coal district, and exports much coal of a superior quality. LOUISBURG is connected with Sydney by railway. The French once had a fort at Louisburg which cost \$6,000,000. ARICHAT, on Isle Madame, is the headquarters of valuable fisheries.

To the Teacher.—Give the additional information necessary for the following exercise:

Exercise.—1. Draw an outline map of Nova Scotia showing its mountain ranges, principal waterbeds, and principal rivers. Draw in the lines of railway, and mark the principal towns. Color the coal districts black, the iron districts brown, and the gold districts yellow. 2. What is gypsum? Of what use is it? Where is it obtained? 3. Why should Nova Scotia be so much engaged in ship-building? Why so much in fisheries? 4. Describe the various sorts of fish obtained by the Nova Scotia fishermen. 5. Why are there so many people of French descent in Nova Scotia. What geographical names show that the French people once possessed a part at least of the Province? 6. What popular and well-known poem takes a part of Nova Scotia as the scene of its action? What part of the Province is thus taken? 7. By whom, and for what reason, was Halifax founded? 8. For what is Louisburg noted in history? What famous British General was called the "Hero of Louisburg"? 9. When was Cape Breton taken from the French. When was it united with Nova Scotia. 10. What is meant by "Her Majesty's dockyard," and by the "North American fleet"?

Review Exercise.—1. Make a table comparing the four provinces, Ontario, Quebec, New Brunswick, and Nova Scotia, as regards (1) area; (2) population. 2. Compare these four provinces in respect of (1) agriculture; (2) lumbering; (3) shipping; (4) mining; (5) fishing. 3. Describe (1) the systems of government of these four provinces; (2) their educational systems. 4. Give a short account of the history of these provinces previous to confederation. 5. What advantages have been gained by confederation? 6. Describe the Intercolonial Railway.

LESSON XXVII.

PRINCE EDWARD ISLAND.

1. Size and Population.—Prince Edward Island is the smallest of the provinces of the Dominion. It is but 130 miles long, and 34 miles broad. Its area is 2,133 square miles. Its population is about 110,000.

2. Boundaries, Physical Features, and Subdivisions.

To the Teacher.—Teach these from the map. Notice the indentations of the coast-line. The surface is gently undulating, nowhere mountainous or flat.

3. Soil and Climate.—A large part of the surface of the Island is perfectly free from stone. No minerals of value are found. The soil is remarkably fertile. More land is under cultivation in Prince Edward Island, in proportion to its size, than in any other province. The climate is free from severe extremes of temperature, and is healthful. The air is usually free from fog.

4. Occupations of the People and Industries.—As the soil is so fertile, agriculture is the prevalent occupation of the people. The farm products are the same as in Ontario. The fisheries are very valuable, especially on the northern coast, which is much frequented by mackerel and cod. Oysters, also, are taken and exported. Ship-building is an important industry; the other manufactures are for home consumption.

5. People, Religion, Education, and Government.—Prince Edward Island once formed part of the French Province of Acadia, but only one-tenth of its people are of French descent. The remainder are of British and Irish origin. Over two-fifths of the people are Roman Catholics. The public schools are free. There is a Provincial Normal School, and there are two colleges. The Government is similar in constitution to that of the other maritime provinces, save that the Legislative Council is elective.

6. City and Towns.—CHARLOTTETOWN (15,000) is the only city. It contains all the government buildings, the colleges, and the principal schools of the Island. It has a good harbor. It is largely engaged in ship-building, and exports agricultural produce and oysters. By the Prince Edward Island Railway it has connections with all the principal places of the Island. SUMMERSIDE (3,000) has an excellent harbor, does much ship-building, and exports farm produce and oysters. GEORGETOWN (1,100) has one of the best harbors of the Island. SOURIS does ship-building, and is an important fishing centre. ALBERTON has a fine harbor. TIGNISH is a fishing point.

LESSON XXVIII.

MANITOBA.

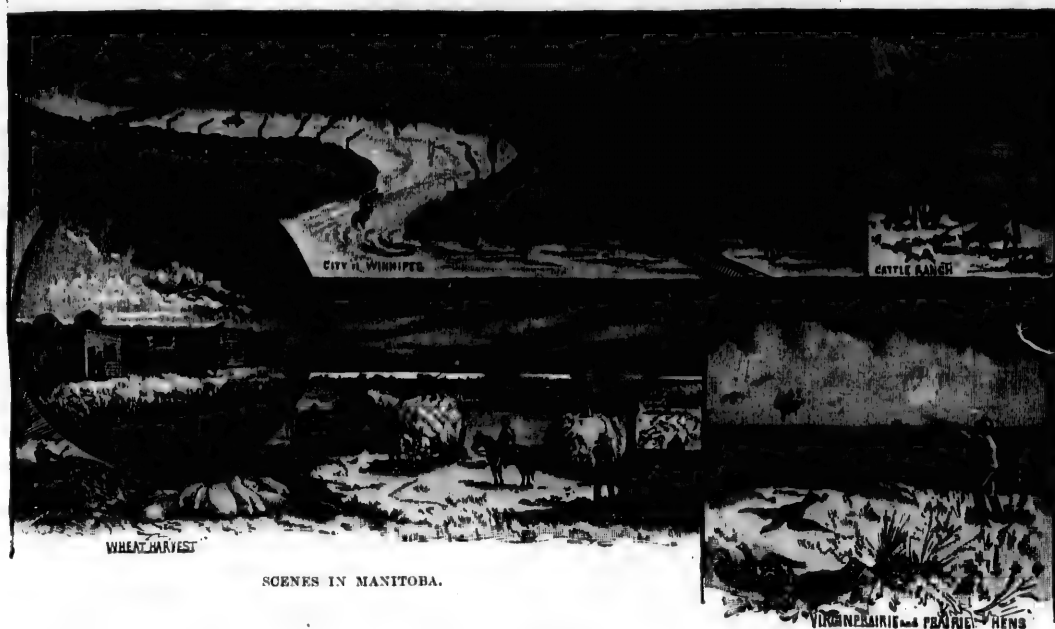
1. Position, Boundaries, Size, and Population.—Manitoba, the Prairie Province, lies to the west of Ontario. Its southern boundary is the international line, or the 49th parallel of latitude. Its northern boundary is the 53rd parallel of latitude. Its south-eastern boundary corresponds with the north-western boundary of Ontario. Its length from east to west is 544 miles; its breadth from north to south is 264 miles. Its area is 116,000 square miles. Its population is rapidly increasing; at present it is estimated to be 125,000.

2. Physical Features.

To the Teacher.—The following notes may be made use of in teaching the physical features from the map:—The Red River, flowing northward into Lake Winnipeg, divides Manitoba into two nearly equal parts. The eastern half, especially that lying to the north and east of the Winnipeg River, is hilly and rocky; but it is well covered with timber, and parts of it abound in small lakes. The remainder of the Province consists mainly of level prairie. On the southern boundary are two elevations—Pembina (pem'bi-na) Mountain, and Turtle Mountain. Towards the west and north are other elevations—Riding Mountain, Duck Mountain, and Porcupine Hills. The soil of the prairie is a rich, deep, black mould, resting on a hard clay sub-soil, or on a limestone which easily disintegrates and enriches the mould above it. From the peculiar fineness of the particles of the soil in Manitoba, it is supposed that the greater portion of the Province once formed the bottom of a large lake. The lakes of the Province—Winnipeg, Manitoba, and Winnipegosis—are all connected, and, through the Nelson River, flow into Hudson Bay. The rivers are extremely important. The Assiniboine, which flows into the Red River at Winnipeg, is navigable for 320 miles. The Red River is navigable from Moorhead, in Minnesota, to its mouth—400 miles. The Saskatchewan, which flows into Lake Winnipeg, is navigable as far as Edmonton, at the base of the Rocky Mountains. Winnipeg, the capital of the Province, may be said to be, commercially, the converging point of this vast water-system.

3. Climate.—The climate, though excessive, is very healthy. The winters are extremely cold. They commence in November, and last till the end of March; but the atmosphere is bright and dry, and the low temperature is endurable. At times, however, "cold waves" set in, and "blizzards" occur—furious winds, intensely cold, and laden with snow blown into particles like dust, and these are driven with such force that they penetrate the skin like needles. The summers are warm, sometimes hot; but they are subject to frosts. June is a month of rain. Excessive as the climate is, however, all kinds of grain, roots, and garden vegetables ripen to perfection, though, occasionally, wheat is injured by the early autumn frosts.

4. Occupations of the People and Industries.—Manitoba occupies one of the best portions of the



SCENES IN MANITOBA.

wheat belt, and the raising of grain is, and must continue to be, a chief occupation of the people. Stock-raising is also an important industry, the hay of the prairie being very nutritious. There is little timber in the prairie portion of the Province, except in fringes along the edges of the streams. The timber of the eastern part is principally made into lumber at Rat Portage, which is in Ontario. There are no minerals in Manitoba, but lignite coal is found on the Souris River just outside of the Province. The manufactures as yet are merely for local use.

5. People, Religion, Education, Government.

—The people are principally settlers from the older provinces and the mother countries, although a large number (about one-fifth) are descendants of the French hunters and trappers who once were the only white inhabitants of the country. All religions enjoy equal privileges. Education is under provincial control, and is well attended to. Free schools are established as rapidly as they are needed. There is a Provincial University, and, also, a Provincial Normal School. There are, besides, three colleges—St. Boniface (Roman Catholic), St. John's (Anglican), and Manitoba (Presbyterian).

The Legislature consists of the Lieutenant-Governor and a House of Assembly, as in Ontario. The District of Kewatin is under the jurisdiction of the Lieutenant-Governor of Manitoba.

6. Cities and Chief Towns.—WINNIPEG (35,000) is the capital city of the Province, and the commercial metropolis of the North-West. It has excellent communications by water with the great fertile belt which stretches between Lake Winnipeg and the Rocky Mountains, and it is at the centre of the railway system of Canada. In 1870, when the Province of Manitoba was organized, Winnipeg was a hamlet of but 300 people. In 1874 it was incorporated as a city; and now its population is 35,000. It possesses all the conveniences of a well-established modern city; its streets are lighted by electricity and gas, it has a system of waterworks, and it has street-railways. It is the seat of the University of Manitoba, of Manitoba College, of St. John's College, and of the Provincial Normal School. Its public buildings, and especially its churches, are very fine. Opposite Winnipeg is ST. BONIFACE, the residence of the Roman Catholic Archbishop, and the seat of the College of St. Boniface.

BRANDON (3,000) is 133 miles west of Winnipeg, on the Assiniboine River. Its growth has been marvellous. It exports much grain.

PORTAGE LA PRAIRIE (3,000) is the largest of the towns. It is the centre of a rich grain district. It has local manufactures, and is the headquarters of the Manitoba and North-Western Railway.

EMERSON (2,500), RAPID CITY (1,500), MINNEDOSA (1,000), GLADSTONE, SELKIRK, NELSON, MORRIS, and BIRTLE, are all rapidly-growing towns, fast rising into importance.

Exercise.—1. Trace on the map the river system of Manitoba. 2. Trace on the map the railway system. 3. Locate the cities and towns mentioned in the text. 4. Trace on the map the various routes by which grain and cattle may be sent from the North-West to Europe—(1) *via* Montreal; (2) *via* New York. 5. What advantage to the North-West would be gained by the building of a railway from Winnipeg to Hudson Bay?

LESSON XXIX.

THE DISTRICTS AND TERRITORIES OF THE DOMINION.

1. The "North-West."—The vast tract of country lying to the north and west of Ontario and Manitoba, and to the east and north of British Columbia, is popularly known as the North-West Territory. Of this tract, however, several distinct portions have been constituted Districts, and the name "North-West Territory" should be restricted to the remainder. The Districts are Assiniboia, Saskatchewan, Alberta, Athabasca, and Kewatin.



2. The North-East Territory.—The North-East Territory is the tract lying to the north of Quebec, between Hudson Bay and Labrador.

3. Cession to Canada, and Extent.—These Districts and Territories, together with the tract now comprised within the Province of Manitoba, were formerly known as the Hudson Bay Territory. This Territory was for many years under the authority of the Hudson Bay Company, whose chief offices were in London, England; but in 1869 it was relinquished to the Government of Great Britain, and in June, 1870, it was ceded to the Dominion of Canada. The extent of the territory thus

gained by the Dominion is estimated at from 2,300,000 to 2,800,000 square miles.

4. Boundaries and Physical Features.

To the Teacher.—Teach the boundaries of the various Districts and Territories from the map. Also, in a series of conversations, with the map constantly in view and constantly referred to, give the pupils some idea of the physical features of this vast region. Roughly speaking, there are three distinct divisions of it.

(1) *The Hudson Bay Area.* This division comprises the North-East Territory, Kewatin, and the parts of Manitoba, Saskatchewan, and the North-West Territory which are to the eastward of the lakes lying between Lake of the Woods and Great Slave Lake. It is a rugged, rocky country, abounding in small lakes and rapid rivers (the rivers interrupted by numerous waterfalls), covered largely with forest, and containing much mineral wealth. Coal, iron, manganese, and lead, are to be had on the Great Whale and Little Whale Rivers, and iron on the Churchill and Nelson Rivers. Of the whole area but little is adapted to agriculture, and scarcely anything has been done towards developing its resources of mine and forest. The building of a railway from Winnipeg to Port Nelson, as is proposed, and the consequent establishing of a

steamboat route from Hudson Bay to England, in order to afford the grain of the North-West an easier access than it has at present to the markets of Europe, will result in the opening up and working of the iron deposits of Kewatin, which are said to be rich and numerous.

(2) *The Arctic Slope, or the Valley of the Mackenzie.* The southern boundary of this slope corresponds very nearly with the 56th parallel of latitude, and is formed by the watershed which marks off the northern boundary of the valley of the Saskatchewan. The northern part of this division is a great plain, frozen nine months of

the year, generally wooded, but valuable only for the fur-bearing animals which are found upon it, and for its coal; but the coal has been little worked or sought for, although it is known to exist almost throughout the whole plain, and in especial richness near Great Bear Lake. Copper and lead are also known to exist, especially on the Coppermine River, where the copper ore is very rich. The more southern parts of the slope—the valleys of the Athabasca and Peace Rivers—comprise the best and largest wheat area in the Dominion. These valleys contain some of the finest prairie land in the North-West—the grass upon them being of better quality than that found on the plains,—but they are separated from one another, and from the great prairie region to the south, by vast forests. Lignite coal is abundant along both rivers, but this is the only mineral. Along the Peace River petroleum, too, is said to be abundant.

(3) *The "Fertile Belt," or Prairie Region.* This division lies to the north of the watershed corresponding generally with the international line, and within a boundary which may be traced as follows:—The Red River valley northward as far as Winnipeg; thence the valley of the Assiniboine River westward to the confluence of the Qu'Appelle with the Assiniboine; thence the valley of the Assiniboine north-westward and across the plains to the confluence of the two branches of the Saskatchewan; thence along the valley of the North Saskatchewan westward to Edmonton; thence south-westward to Calgary; thence along the base of the Rocky Mountains to the international

line. This area of 850,000 square miles is either quite treeless, or merely dotted at intervals with groves of aspen and other soft-wood trees. The southern and south-western portion of it is almost entirely without wood, save fringes of cottonwood trees along the banks of the rivers. The soil of this division is, for the most part, of surpassing richness, being a deep loam or mould, resting upon a clay subsoil, or upon limestone; but in Assinibola, near the boundary line are stretches of alkali lands which are worthless except when artificially fertilized. The whole region is, as a rule, well watered,—small lakes, rivers, and streams, being very numerous.

The large lakes and rivers of the Territories and Districts should be taught from the map. The courses of the Saskatchewan and the Assiniboine, with their tributaries—the Battle, Bow, Belly, Qu'Appelle, and Souris Rivers,—and of the Athabasca and Peace Rivers, should be traced with care, as in the future it is with these rivers that the history of our country will be largely concerned,—the lands they water being extensive enough, and fertile enough, to sustain a population of 50,000,000 people, or ten times the present population of the whole Dominion.

5. Climate.—The climate of the Territories, and of the District of Kewatin, is extremely cold. Summer, in these regions, is but a short season. The climate of the other Districts resembles that of Manitoba; though in the south-west it is much milder, and the snowfall there is slight, so that horses and cattle remain out through the whole winter, feeding upon grass, which is abundant and nutritious all the year round.

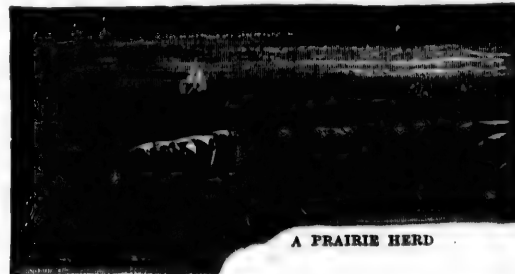
6. People, and Occupations.—Until 1870, in all this country there were few people that were not engaged in hunting and trapping. The inhabitants, other than the agents of the Hudson Bay Territory, were Indians and Half-breeds, and a few enterprising adventurers from the older provinces. Since that time, from every province of Canada, from the Mother Countries, and from



THE TRAPPER'S RETURN.

the United States, constant streams of colonists have been pouring into the Fertile Belt, and much land has been occupied and devoted to agriculture. Farming is prosecuted as in Ontario, except that the farms are larger, and a greater use is made of machinery. Wheat, oats, barley, rye, and potatoes, mature perfectly,—though the early frosts of autumn are sometimes destructive. In the valleys of the Bow and Belly Rivers cattle raising is largely followed. For this purpose the

land is parcelled out into "ranches." On some ranches from 10,000 to 50,000 cattle are kept. The rich minerals of the north and east are not yet mined, for lack of facilities of transport. In the "North-West," how-

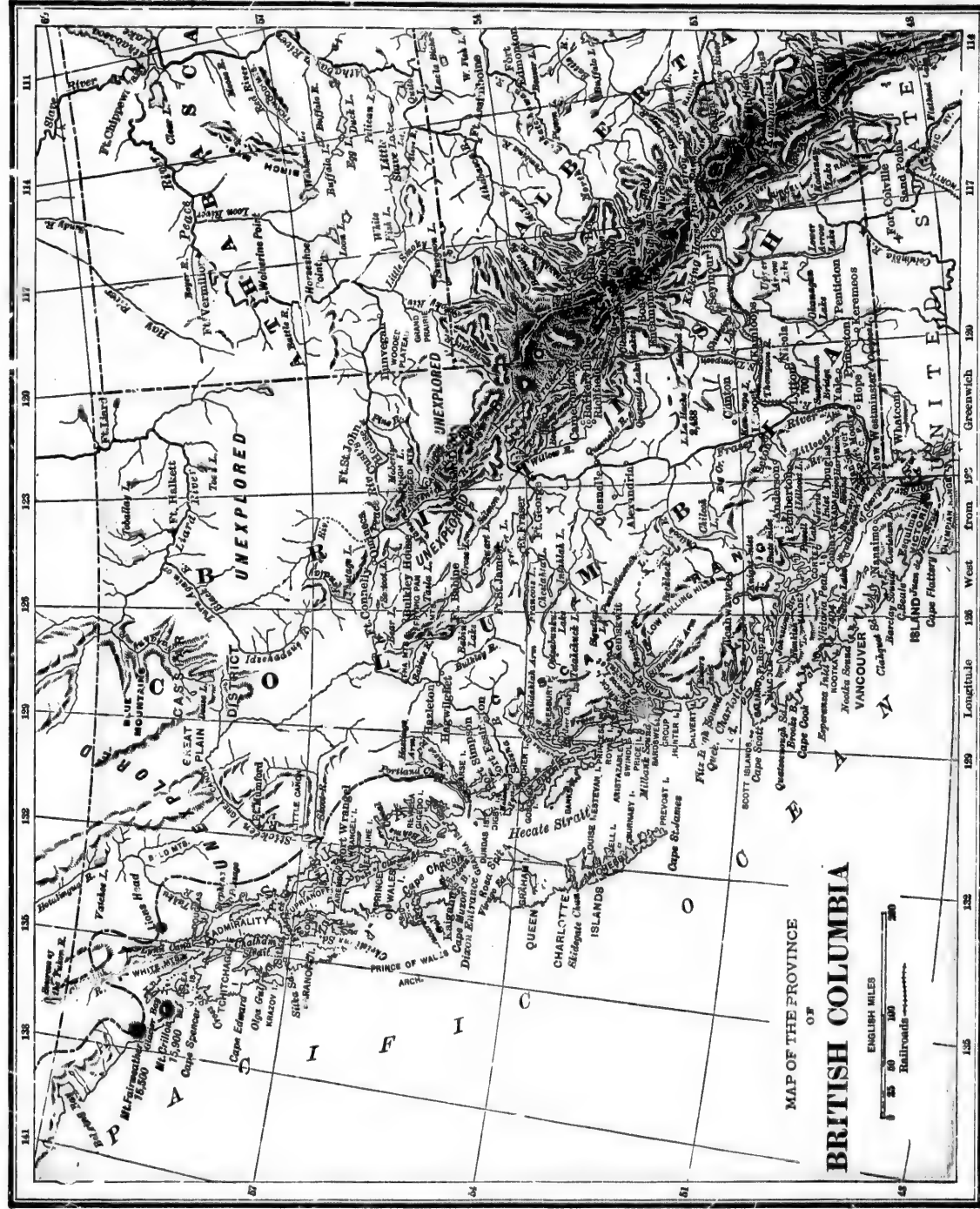


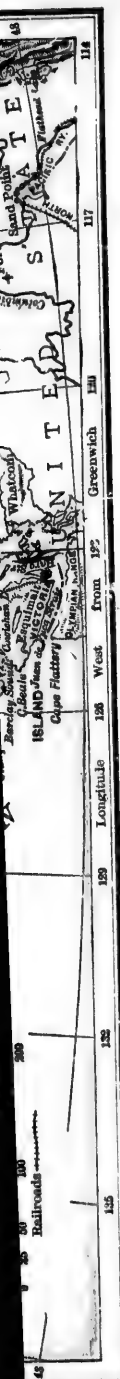
A PRAIRIE HERD

ever, coal is presently needed, and is now plentifully mined along the South Saskatchewan, and its branches, the Bow and Belly Rivers, and on the Souris River. The supply of coal is practically inexhaustible.

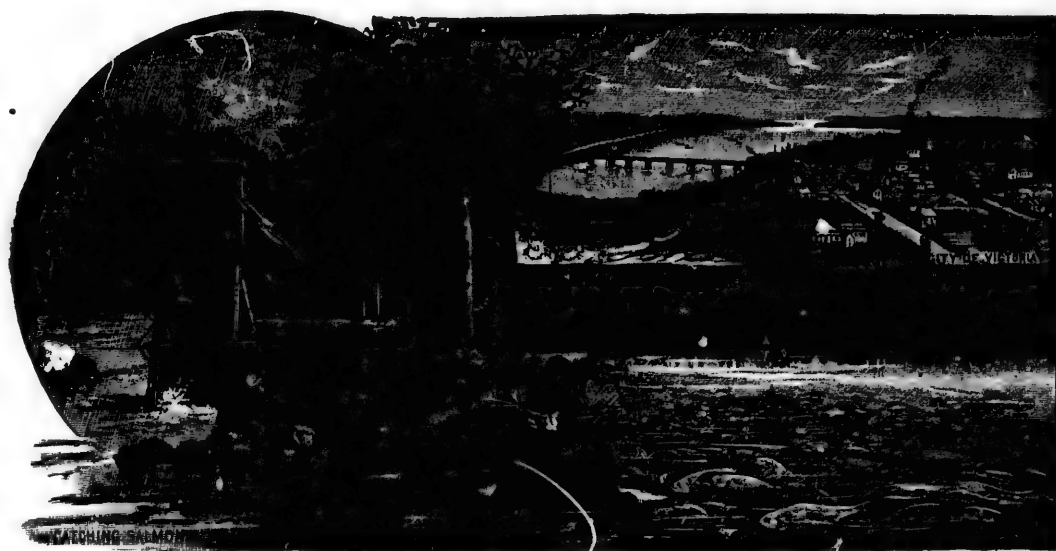
7. Government, Religion, and Education.—The government of the Territories is administered directly by the Dominion Executive. The District of Kewatin is under the jurisdiction of the Lieutenant-Governor of Manitoba. The government of the Districts of Assiniboia, Saskatchewan, Alberta, and Athabasca, is administered by a Lieutenant-Governor, whose seat of government is at Regina. Laws for these Districts are framed by a Council, a part of whom are nominated by the Dominion Government, the remainder being elected by the people directly. These Districts have representation also in the Dominion House of Commons. Through the liberality of the people in the older provinces, and the enterprise of missionaries, the interests of religion are well provided for. Educational interests are attended to as well as circumstances permit.

8. Chief Places.—REGINA is the capital of the Districts Assinibola, Saskatchewan, Alberta, and Athabasca, the residence of the Lieutenant-Governor, and the headquarters of the Mounted Police. It is in the centre of the largest wheat-growing district of the North-West. BATTLEFORD, at the confluence of the Battle River with the North Saskatchewan, was the former capital. It was the scene of the principal Indian rising in the Rebellion of 1885. MEDICINE HAT, where the Canadian Pacific Railway crosses the Saskatchewan, is the centre of a rich coal district. CALGARY is the centre of the cattle-grazing district at the foot of the Rocky Mountains, and the chief place of southern Alberta. PRINCE ALBERT is the chief place in Saskatchewan District. CARLETON, DUCK LAKE, and BATOCHE, are among the oldest places in the North-West. The district adjacent to these places was that principally concerned in the Rebellion of 1885. EDMONTON,





Canada Publishing Co., Toronto



SCENES IN BRITISH COLUMBIA.

the centre of an inexhaustible coal region, is the chief place in northern Alberta. The Saskatchewan is navigable in times of flood from Edmonton to the rapids, near its mouth; at other times, from Battleford. FORT McLEOD is at the centre of a rich grazing country. QU'APPELLE, MOOSE JAW, MOOSOMIN, FORT PELLY, and FORT SASKATCHEWAN, are rapidly growing places. Moose Jaw has productive coal mines.

FORT VERMILLION and DUNVERGAN are the chief places in Athabasca District.

FORT NELSON is the chief place in Kewatin District, and the terminus of the proposed Winnipeg and Hudson Bay Railway.

Exercise.—1. Trace on the map the boundaries of all the Districts and Territories mentioned in the text. Trace on the map the courses of all the rivers mentioned. Point out the large lakes. 2. Give some account of the history of the "North-West." 3. Describe the "Hudson Bay Area." 4. Describe the "Valley of the Mackenzie." 5. Trace on the map the boundaries of the "Fertile Belt." 6. Describe the Fertile Belt. 7. Describe the grazing districts which lie under the shelter of the Rocky Mountains. 8. Describe the Peace River District. 9. Give some account of the people of the "North-West." 10. What are "cattle ranches?" 11. Describe the Governments of the several Districts and Territories. 12. Point out on the map the "chief places" mentioned in the text. 13. Trace the course of the Canadian Pacific Railway. 14. Point out on the map the various mineral regions of the Districts and Territories. 15. Give some account of the Rebellion of 1870; also of that of 1885.

(67)

LESSON XXX.

BRITISH COLUMBIA.

1. Position, Extent, and Population.—British Columbia lies to the west of the Rocky Mountains and south of the 60th parallel of latitude. It includes Vancouver Island, and Queen Charlotte Islands, but it does not include the coast (with the islands adjoining) north of Portland Channel; this belongs to the United States' Territory, Alaska. The length of British Columbia from north to south is about 760 miles. Its area is over 340,000 square miles. It is the largest Province of the Dominion. Its population, however, is the least, being less than 60,000.

2. Boundaries and Physical Features.

To the Teacher.—Teach the boundaries from the map. Notice that from latitude 54° the eastern boundary line is the 120th meridian of longitude. Notice that the Island of Vancouver comes below the 49th parallel. Notice, too, that the coast north of Portland Channel (a strip about 50 miles wide) belongs to Alaska; and that the Island of San Juan, in the Strait of Juan de Fuca, belongs to the United States. In teaching the physical features from the map the following notes may be used:—The entire Province is mountainous. The Rocky Mountains constitute the principal range. These mountains attain their extreme height in British Columbia—Mount Brown, Mount Hooker, and Mount Murchison, being all from two and a half miles to three miles high.

Through the Rockies are several passes; the principal of these are Peace River Pass, Pine River Pass, Yellow Head Pass, and Kicking Horse Pass. Through Kicking Horse Pass, which is about one mile high, the Canadian Pacific Railway enters the Province. In the southern part of the Province, parallel with the Rockies, is the Gold Range, consisting of several associated ranges; and parallel with these, bordering upon the coast, is a third range, the Cascade or Coast Mountains. Between these ranges are elevated table-lands, generally with a rolling surface, and for the most part covered with grass, though some are wooded. These table-lands are usually furrowed by valleys ploughed out by rivers.—The rivers of British Columbia are impetuous, tortuous, and intricate—frequently with abrupt changes in their general direction. The valleys of the principal rivers should be traced on the map. The valley of the Peace River is of comparatively low altitude, and where it leaves the Province the adjacent land is well suited to agriculture. Along the lower part of the Fraser River is an excellent grazing district. The Thompson (an affluent of the Fraser) flows through one of the most beautiful countries in the world. Of the Columbia, more than 800 miles are in Canadian territory. The Skeena River affords a route to the mining district of the north. Its head waters, and those of a tributary of the Peace, are fed by the same lake. The Stickeen and the Liard are the remaining important rivers.—The coast of British Columbia is mountainous, its edge precipitous and rocky; but it is indented with very many long, narrow inlets. Of these some make excellent harbors; others are exposed, and so deep that anchorage is impossible. But the whole coast may be said to abound in harbors, and in this respect it offers a contrast to that of Washington, Oregon, and California, to the south, which, as far as San Francisco, has not one available harbor. The more important harbors are:—Burrard Inlet, Esquimalt, Howe Sound, Jervis Inlet, Bute Inlet, Dean Inlet, and Port Simpson. The location of the principal islands, Vancouver, Queen Charlotte, etc., should be observed. Vancouver Island is 275 miles long. It is separated from the mainland at the south-east by the Strait of Juan de Fuca, 16 miles wide, and along the west by the Strait of Georgia, in some places only a few hundred yards wide. The whole coast of British Columbia, with the exception of two short stretches, is bordered by islands, which leave a channel wide and deep enough for the largest ocean steamers to ply up and down, perfectly safe from the winds and billows of the Pacific.

3. Soil and Climate.—About one-half of the Province is fit for agriculture, though the arable districts are much broken by the mountains. The climate is milder than that of corresponding regions in eastern Canada, owing to the influence of warm winds from the south and of a warm ocean current. In the southern part of Vancouver Island there is but little snow, and the winter temperature is never low. The coast regions

have a great deal of rain. The table lands of the southern interior have little rain, the irrigation of land being sometimes necessary to agriculture; and their winter temperature is so mild that cattle remain out all winter grazing. In the Peace River district the climate is similar to that of Ontario, and the rainfall is sufficient to bring all crops to maturity.

4. Occupations of the People and Industries.

To the Teacher.—The following notes may be used in conversation:—

The forests of British Columbia are noted for their value and extent. The Douglas pine, which is found principally on the western slopes of the Coast Mountains, grows to the height of 300 feet, and is much prized as masts for ships. There are also found several other varieties of pine, and besides, cedar, hemlock, tamarack, yew, oak, and maple. The timber trade is only beginning, but it is already of great importance. Lumber is exported to the neighboring States, and to South America, Australia, and China. In the north, fur-bearing animals are very numerous—beavers, bears, land and sea otters, seals, martens, minks, the wolf, the



INDIAN ENCAMPMENT.

fox, the lynx, and the ermine—and the hunting and trapping of these engage many of the Indian population. The annual export of furs amounts to \$300,000. The fisheries of British Columbia are yet in their infancy; but they will become exceedingly productive, and may yet rival those of Newfoundland and Nova Scotia. The rivers teem with salmon. Cod, halibut, haddock, smelts, and sardines, are all found abundantly along the coasts. The value of the fish annually taken is nearly \$2,000,000. Fish are not valuable as an export alone; the Indians of the Pacific Coast live largely upon this article of food. Agriculture is as yet confined to local demands; no grains are exported. The great industry of the Province is mining. Gold is found on the Kootenay River, a branch of the Columbia; in the Cariboo district on the Upper Fraser, and on the creeks between it and the Thompson River; in the Omineca district between the Skeena and the Peace Rivers; and in Cassiar between the Stickeen and the Liard—the Cariboo district being

the richest. The gold was formerly obtained by washing the silt of the river beds, which accumulates in bars after every freshet, or by washing the sand taken from old river beds; but little can now be had in this way; it must be obtained by crushing quartz. In 1858 gold was first discovered on the Fraser River. Since then nearly two million dollars' worth a year has been taken out of the Province; and in 1864 the amount obtained was nearly four million dollars' worth. Silver, also, is found near Hope, on the Fraser. Of iron there is an unlimited supply. The whole Island of Texada, in the Strait of Georgia, is said to be almost a mass of iron-ore, yielding 80 per cent. of pure iron of the best quality. But the most valuable mineral resource is coal. On Vancouver Island a deposit of bituminous coal runs in a trough almost the whole length of the island. It is obtained principally at Comox and Nanaimo. It is of excellent quality, and is much used on ocean steamships. Queen Charlotte Islands have extensive beds of the very best anthracite coal. Lignite coal is found on the mainland, in the Nicola Valley, and along the Thompson and Skeena Rivers.

5. People, Religion, Education, and Government.—

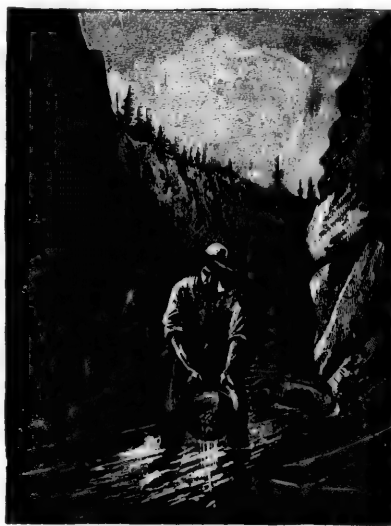
About one-half of the population consists of Indians, but these, however, are quite peaceful in their habits. Though not industrious naturally, yet they are easily civilized and can be made good citizens. They care little for farming, but the hunting and fishing industries are almost exclusively carried on by them, and they supply the principal labor for the timber industry. One-tenth of the population consists of Chinese. The remainder are of British origin (many from the older provinces). At one time adventurous fortune-hunters from all quarters of the world thronged the mines, but most of these have now disappeared. Religious worship is general among the white people, as in the older provinces; but the Indians and Chinese remain largely pagan, although, through the enterprise of missionaries, many of these have become Christians. Education is very liberally provided for by the Government. There are both public and high schools. The constitution of the Provincial Government and Legislature is the same as in Ontario and Manitoba. British Columbia was admitted into the Dominion of Canada in 1871.

6. Cities and Chief Places.—VICTORIA (5,925) is the capital and chief place. It was formerly the capital of the Province of Vancouver Island. Its population has fluctuated much, owing to the excitement caused at various times by the discovery of gold in new districts; as, for example, in the Cariboo district in 1860, and in Cassiar in 1873. The city is pretty; its parks and gardens are attractive, and its view of the snow-clad heights of the Olympian Range to the south gives it an additional charm. Its harbor is small and unimportant. ESQUIMALT, four miles distant, is the true harbor of Victoria. Esquimalt is the station of the British North Pacific fleet, and the site of a Government graving-dock. NANAIMO (connected with Esquimalt by railway), COMOX, and FORT RUPERT, have extensive coal mines.

NEW WESTMINSTER is the principal place on the mainland. Formerly it was the capital of the old Province of British Columbia. It is the chief centre of distribution of supplies for the interior, and the depot for the products obtained in it. HOPE, YALE, and LYTTON, on the line of the Canadian Pacific Railway, are thriving places in the pasturing district of the lower Fraser. Between Yale and Lytton the scenery of the Fraser is of the grandest in the world. From Yale, which is the head of navigation for the Fraser, a wagon-road has been built, at a cost of half a million dollars, along the river to the Cariboo mining district. KAMLOOPS is the centre of a grazing district. VANCOUVER, nine miles from New Westminster, on Burrard Inlet—one of the best harbors on the coast—is the western terminus of the Canadian Pacific Railway, and the centre of the Douglas pine industry. It will, in all probability, become an important town.

Lines of steamships running from it will connect Canada with Australia, Japan, and China. PORT ESSINGTON and PORT SIMPSON are the most important places on the northern coast. Near them is METLAHKATLAH, a large and flourishing Indian village, the result of missionary enterprise.

Exercise.—1. Point out on the map the mountains and passes mentioned in the text. Trace the courses of the rivers, and point out the inlets and islands mentioned. 2. Trace on the map the ship-passage along the coast. 3. Account for the peculiarities of the climate of British Columbia. 4. Give an account of the natural products of the Province. 5. Point out on the map the four gold districts mentioned in the text. How is gold obtained? Point out the coal and iron districts. 6. Tell what you know of the coast Indians. 7. Trace on the map the course of the Canadian Pacific Railway. 8. Trace on the map a route, suitable for a railway, from Peace River Pass to Port Simpson; also, for one from Yellow Head Pass to Bute Inlet.



GOLD-WASHING.

LESSON XXXI.

NEWFOUNDLAND.

1. Position, Size, and Population.—Newfoundland (nū'fun-land) is an island lying between the Gulf of St. Lawrence and the Atlantic Ocean. It is an irregular triangle in shape, with each of its sides something over 300 miles long. Its area is about 42,000 square miles. Its population is about 185,000.

2. Physical Features.

To the Teacher.—Teach these from the map. The many deep bays and inlets which indent the coast-line should be noticed; and the more important of these—Hare, White, Bonavista, Trinity, Conception, St. Mary, Placentia, Fortune, St. George, and Bay of Islands—should be regarded particularly, as it is upon their shores that the only settlements upon the island have as yet been made. In these bays, and on the east and south shores generally, are many excellent harbors.—The south-eastern part of the island, which is attached to the main part by merely a slender isthmus, is known as the Avalon Peninsula.—The hill-ranges, and hence the rivers, have all a general direction—north-east and south-west. The face of the country consists of a succession of these ranges with narrow alleys between. There are but few plains. The rivers are not important, though some are large. The lakes and ponds are very numerous; it is thought that

one-third of the surface of the island is taken up with them: they are for the most part small, and are found everywhere, even on the tops of the highest hills.—Notice the Strait of Belle Isle at the north, through which, as it never freezes, is the "inside route" of ocean steamships between Montreal and Liverpool.—Notice, also, the two small islands, Miquelon and St. Pierre, at the south; they belong to France. The names of three capes—Cape Ray (which is the point nearest Cape Breton—only 50 miles distant), Cape Race (at which ocean steamships call), and Cape Spear (the point nearest to Europe—only 1,640 miles from Ireland)—should also be remembered.—With the physical features of the island should be associated the "Newfoundland Banks"—stretches of elevated level sea-bottom, at comparatively shallow depths below the surface. The Grand Bank of Newfoundland, off the eastern coast, is 600 miles long from north to south, and about 200 miles wide, its depth being only from 50 to 300 feet, while the sea-bottom beside it is 8,000 feet deep. There are other banks; but none else are so large or of so shallow a depth. They are all of great commercial importance.

3. Soil and Climate.—The proportion of arable land in the whole island is small, though along all the

rivers, and at the head of every bay and inlet, are areas of alluvial soil, valuable—some very valuable—for agriculture. Some of the plains are covered with grass and are fit for pasturing. There is a great deal of forest land in the west, but as yet it has been left unbroken. The climate is less subject to extremes than that of the provinces on the mainland; but fog is prevalent along the coasts, and the atmosphere is always moist, so that cold temperatures are keenly felt. The eastern coast is subject to the chilling effects of the Arctic current, and, in spring, of passing icebergs. However, all the northern grains (with the exception of wheat), and the

ordinary northern fruits, mature perfectly. In the forests the ordinary northern woods are found, except the oak, the beech, and the maple.

4. Occupations of the People.

To the Teacher.—Use the following notes in conversation:—

The principal occupations of the Newfoundlanders are nearly all connected with the fishing industry. The fisheries of Newfoundland are the most celebrated in the world, and its cod fishery is superior to that of any other country. The value of the

fish annually taken is \$8,000,000. The "Benks," from June until November, are the resort of countless myriads of cod-fish; and the bays and inlets of the coast, especially at the south and west, in the respective seasons, swarm with cod, salmon, herring, and lobsters. The inhabitants of the island, however, devote themselves principally to the coast fisheries, as these are less expensively prosecuted than bank-fishing. The seal fisheries are also very important. The seals are caught in spring, while young, on floating ice off the coasts of Labrador and north-eastern Newfoundland; but the pursuit of them is attended with much danger. Whales, too, and grampuses and porpoises are hunted. These are valuable for their oil, and also for their skins.—The second industry in importance is mining. Copper is found in very rich deposits around Notre Dame Bay, and is mined largely; so that, for the production of copper, Newfoundland is excelled by very few countries. Lead is found



COD-FISHING.

in mines around Placentia Bay and St. George Bay. Bituminous coal is very abundant in the west, but is not yet mined. The gypsum beds, too, of the west, in richness and extent, rival those of Nova Scotia. Other minerals and metals are abundant, especially marbles, building-stones, and stones suitable for grindstones and whetstones; but little has been done to develop these.—Of wild animals, in the interior, reindeer, or cariboo, are very numerous; martens and beavers are also numerous, and are trapped for their furs.—Of lumbering little has been done, though, in the west, pine and spruce are abundant. Agriculture, too, has, as yet, been little pursued, and only to satisfy local demands. The manufactures of the island are confined to the capital, and are merely for domestic use.

5. People, Religion, Education, and Government.—The people are nearly all of English and Irish origin. One-third of the population belong to the Roman Catholic Church, one-third to the Church of England. Education is provided for in free public schools, the Roman Catholics having separate schools. Newfoundland, though part of British North America, does not form part of the Dominion of Canada; its Governor is appointed by the Queen; he is assisted by an Executive Council. The Legislature is similar in constitution to

somewhat small, is perfectly sheltered from all gales and easily accessible, and hence is much resorted to by ships escaping from the storms of the Atlantic. St. John's is the seat of the government buildings, the asylums, hospitals, etc., and of the principal educational institutions of the Province. Owing to



KILLING SEAL.



DRYING CODFISH.

that of New Brunswick or Nova Scotia. The eastern part of Labrador belongs to Newfoundland.

6. City and Chief Places.—ST. JOHN'S (30,000) is the capital and the chief place of business. Its harbor, though

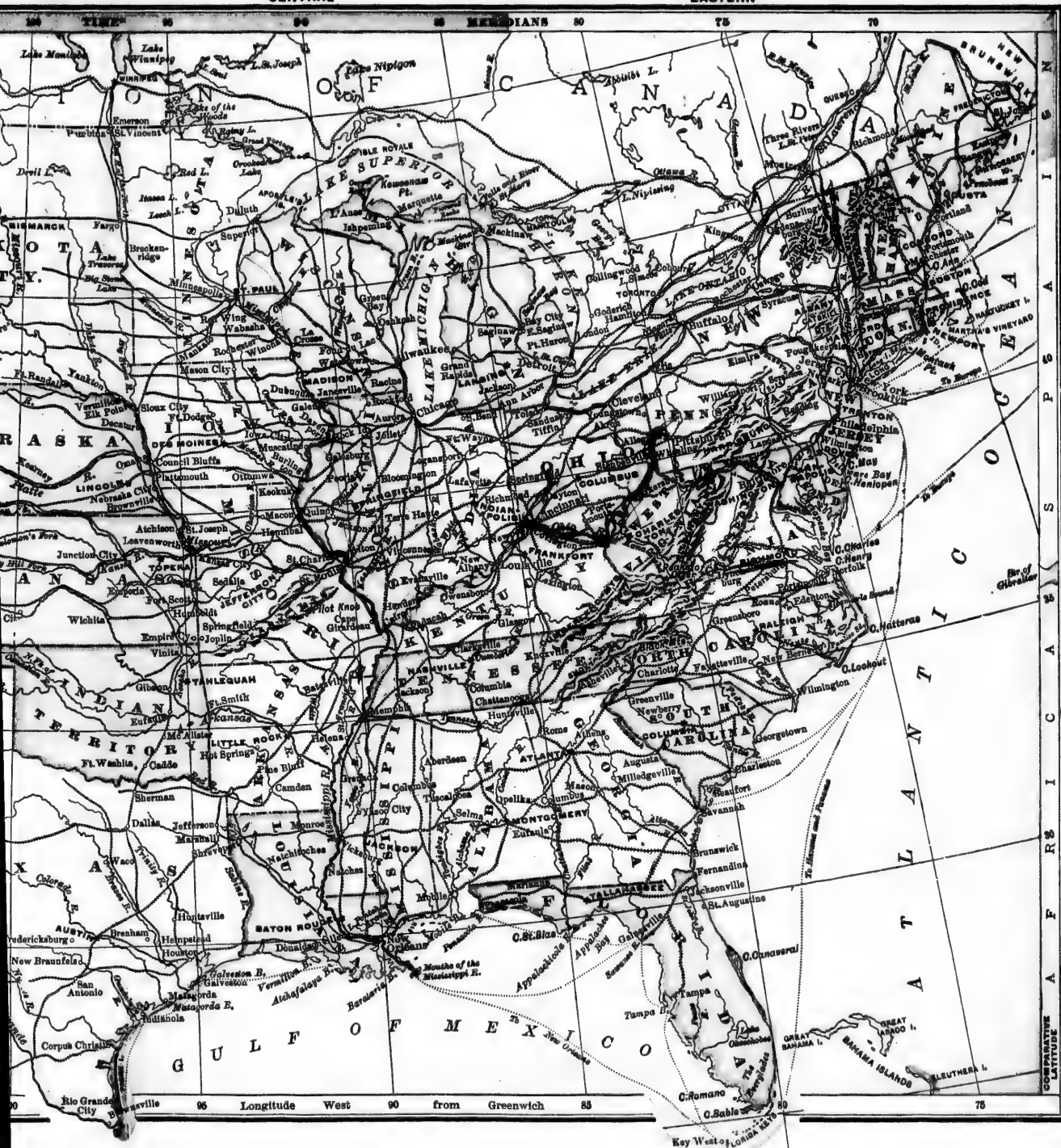
the fact that there is scarcely more than one other place of business on the island, its trade, especially in busy seasons, is of great volume, and exceedingly brisk. It has many manufactures, more particularly of articles used in the fishing, fish-curing, and oil-producing industries. Its public buildings, especially its two cathedrals (Roman Catholic and Anglican), are very fine. TILT COVE, on Notre Dame Bay, the principal seat of the copper-mining industry, is connected with St. John's by railway.

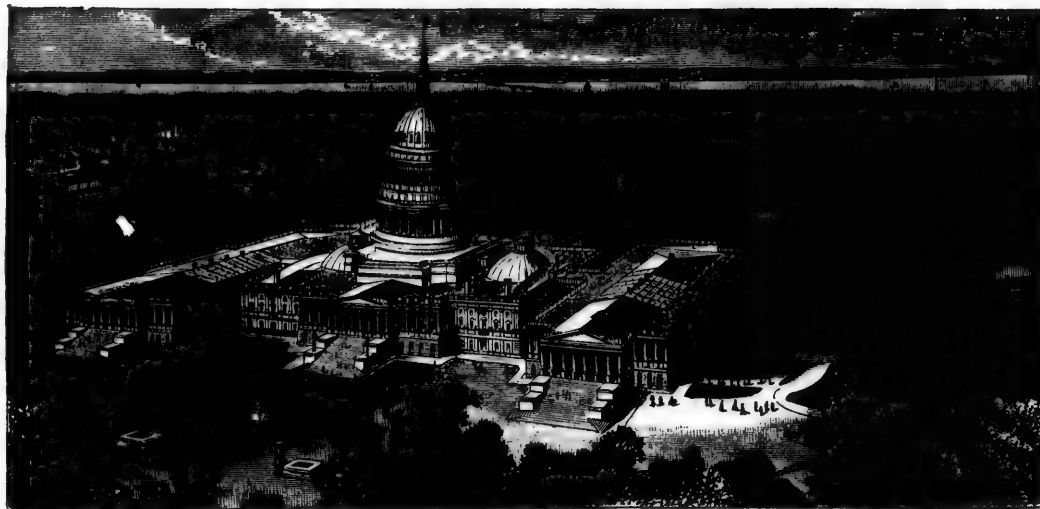
HARBOR GRACE (8,000) is the largest town and an active place, transacting one-fourth of the business of the Province. It is the seat of a Roman Catholic cathedral. BONAVISTA (3,000) is one of the oldest places on the island. HEART'S CONTENT (1,000), on Trinity Bay, is the landing-place of the Atlantic telegraph cables. A land telegraph wire runs from it to Cape Ray, and thence is a sub-marine cable to Cape Breton.

Review Exercise.—1. Distinguish British North America and the Dominion of Canada. 2. Describe a trip by railway from Halifax to Victoria, mentioning the towns and cities that would be passed in the journey, the important rivers crossed, and other geographical features of interest that would be met with. Describe the varieties of soil and climate that would be found in the districts traversed in the trip. 3. Suppose two steamers should leave Montreal, one to take supplies of stores to lighthouses on all Canadian waters west of Montreal, one to the lighthouses eastward—mention all the geographical features that would be passed in their respective routes.



EASTERN





THE CAPITOL, WASHINGTON.

LESSON XXXII.

THE UNITED STATES OF AMERICA.

1. Position, Size, and Population.—The United States of America, one of the most important political divisions of the world, comprises the whole middle area of the continent of North America, and, in addition, the peninsula of Alaska. Its length near the 42nd parallel is 2,800 miles; its greatest breadth is 1,600 miles; and its area is nearly 3,600,000 square miles. Its population in 1880 was over 50,000,000; or more than eleven times the population of Canada.

2. Boundaries.

To the Teacher.—Teach the boundaries carefully from the map. The northern boundary is continuous with the southern boundary of Canada. The southern boundary is formed in great part by the Rio Grande.

3. Natural Divisions.—By the Alleghany Mountains in the east, and the Rocky Mountains in the west, the United States is naturally divided into three great divisions:—The Eastern Division, or Atlantic Seaboard; the Central Division, or the Valley of the Mississippi; and the Western Division, or the Western Plateau Region.

4. Political Subdivisions.—The United States of America is made up of thirty-eight States, eight

organized Territories, two unorganized Territories, one District, and one Tract of Public Land.

To the Teacher.—The names of the States and Territories should be memorized from the map. There are many ways of grouping the States and Territories, but the following will be found simple and useful:—

1. THE EASTERN DIVISION, or ATLANTIC STATES, consisting of (1) the *New England States*—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut; (2) the *Middle Atlantic States*—New York, New Jersey, Pennsylvania, Delaware, Maryland, and Virginia; (3) the *Southern Atlantic States*—North Carolina, South Carolina, Georgia, and Florida.

2. THE CENTRAL DIVISION, or MISSISSIPPI VALLEY STATES, consisting of (1) the *Gulf States*—Alabama, Mississippi, Louisiana, and Texas; (2) the *South Central States*—Indian Territory, Arkansas, and Tennessee; (3) the *East Central States*—Kentucky, West Virginia, and Ohio; (4) the *Central States*—Indiana, Illinois, Missouri, and Iowa; (5) the *North Central States*—Michigan, Wisconsin, Minnesota, and Dakota (Territory); and (6) the *West Central States*—Nebraska and Kansas.

3. THE WESTERN DIVISION, or STATES OF THE WESTERN PLATEAU, consisting of (1) the *Mountain States*—New Mexico (Territory), Colorado, Wyoming (Territory), Montana (Territory), and Idaho (Territory); (2) the *States of the Great American Basin*—Nevada, Utah (Territory), and Arizona (Territory) (Note. Only parts of these States constitute the Basin); and (3) the *Pacific States*—California, Oregon, and Washington (Territory).

4. Alaska (Territory).

5. District of Columbia.

6. Public Lands (north of Texas, between New Mexico and the Indian Territory; usually recognized as part of the Indian Territory.)

5. Soil and Climate.—The United States possesses every variety of soil, and within its borders is found every variety of vegetation from arctic to tropical; and while there are some barren areas, and much mountainous region incapable of cultivation, and also much swamp, especially in the south and south-east, yet the

proportion of good arable land is very great, and the Middle Area, or Central Division, comprises a great deal of the very best agricultural land in the world; and in the Eastern and Western Divisions are equally fertile, though smaller, areas of rich land. Indeed, in the whole country there is little land that is not naturally productive either of agricultural, pastoral, or mineral wealth. The climate, also, is of every degree from arctic to tropical; and though in the south-east, owing to defective sanitary precautions, yellow fever is sometimes an epidemic, yet in no extended area of the whole country can the climate be said to be insalubrious.

6. Occupations of the People and Industries.

—By reason of the great variety and richness of the natural resources of the country—woods, agricultural products, fruits, minerals, fish,—and also of the excellent means of inter-communication, the United States has made wonderful development and progress in the manifold varieties of human achievement, and there is scarcely a branch of agriculture, or of manufacture, or of mining, or of any other sort of industry, which is not flourishing in some part or other of the vast area comprised within its limits.

7. Facilities for Transportation.—No country is more favored with natural facilities for transportation than the United States. Besides the great northern lake system, which it enjoys in common with Canada, it possesses the widely ramifying Mississippi River system, and many other rivers as well. To increase its facilities it has built 115,000 miles of railway, and, besides, many miles of canals. Its railway mileage is two-fifths that of the entire globe.

To the Teacher.—Some of the principal lines of railway should be traced on the map when the remainder of this lesson is finished:—(1) Those of interest to Canadians—the New York Central, the Erie, and the American divisions of the Grand Trunk; (2) the more important other great lines—e.g., the Pennsylvania, the Baltimore and Ohio, and the main lines leading westward from Chicago; (3) the three great Pacific lines running west from the Missouri. The canals connecting the Hudson and the Mississippi with the St. Lawrence lake and river system should also be traced.

8. Government.—The United States is a federal union of separate States. The government of the United States, or the National Government, as it is called, consists of three branches—the Executive, the Legislature, and the Judiciary. The chief of the Executive is the President, who is elected every four years by the people. He is assisted by a Cabinet of seven Secretaries appointed

by himself. The Legislature consists of Congress and the President. Congress is made up of two houses, (1) the House of Representatives—these elected every two years by the people directly, 325 in all, one for each congressional district; (2) the Senate, which is made up of two members for each State, chosen for six years by the legislatures of the several States. Of the National Judiciary, the principal court is the Supreme Court of the United States, consisting of nine judges.

To the Teacher.—The following notes may also be used if thought best:—The President, in addition to his power of appointing the members of his Cabinet, has the appointment of all the judges of the national Judiciary, and of all the subordinate officers of the Government; but *all* his appointments must be approved by the Senate.—A bill, to become law, must pass through both Houses of Congress and be approved by the President. The President may veto, i.e., forbid, the passing of a bill; in that case it cannot become law unless it passes both Houses again, receiving a two-thirds vote in each case.—When the President is elected, a Vice-President also is elected, who succeeds to the presidency in case of the death of the President. He has, however, no important duty during the life of the President.—The Supreme Court, besides being the chief court of the nation, has the duty of forbidding any national bill from becoming law if it deems it unconstitutional.—The several States have legislatures (a Governor and two Houses), executives, and judiciaries, similar in constitution to the Legislature, Executive, and Judiciary of the United States. An organized Territory possesses a legislature, executive, and judiciary, similar to those of a State, except that its Governor and judges are appointed by the President. The unorganized Territories and the District of Columbia are governed directly by the National Government. There are but two unorganized Territories—Indian Territory and Alaska.

9. People, Religion, and Education.—Of the people, over one-eighth are "colored," being descendants for the most part of the negroes who were formerly imported from Africa for slaves. (Slavery was abolished in 1865.) Over 100,000 are Chinese. About 400,000 are Indians. The great mass of the people are either the descendants of immigrants from Europe, or are recent immigrants therefrom. The immigration has been principally from Great Britain and Ireland, and Germany; a large part of it, however, has been from Sweden and Norway, France, Switzerland, Italy, Denmark, Holland, and Poland. One million are either immigrants, or the descendants of immigrants, from Canada. All religious denominations possess equal privileges. Education is under the control of the several States.

To the Teacher.—While all the States liberally support education, so that all public schools, and in some States the high schools, and even the universities, are perfectly free, yet the people in the eastern, northern, and western States attach much more importance to it than do those of the more southern States. In the latter there are very many negroes and "poor whites," who are not only indifferent to education, but also are unable to avail themselves of the assistance which the State governments offer them to enable them to obtain it. So that while the people of the northern and eastern States are among the most enlightened of the world, and those of the western States scarcely less so, the people of the southern States, with the exception of the wealthy, are among the most ignorant.

THE EASTERN DIVISION.

1. Subdivisions and Physical Features.

To the Teacher.—The subdivisions as stated above should be thoroughly learned from the map. The following notes respecting the Physical Features may be used in conversation:—The western border of the division is mainly formed by the Appalachian Chain, which extends from Maine to Georgia, but under various names; *e.g.*, in New Hampshire as the White Mountains; in Vermont as the Green Mountains; in Massachusetts as the Hoosac Mountains; in New York as the Adirondacks (in reality a distinct group) and the Catskill Mountains; in Pennsylvania and Virginia as the Alleghany Mountains; and in Kentucky and Tennessee as the Cumberland Mountains. Besides the main ridge, there are several parallel ridges, especially in Pennsylvania and Virginia; the most important of these is that which is known in Virginia as the Blue Ridge, in North Carolina as the Black Mountains, and in Tennessee as the Smoky Mountains. The Appalachians attain their greatest heights towards their extremities; *e.g.*, Mount Washington, in New Hampshire, is a cone whose snow-capped summit (6,288 feet) is generally concealed by clouds; Mount Marcy, in New York, one of the Adirondacks, is 5,407 feet high; and Mount Mitchell, in North Carolina, is 6,707 feet high. In northern Georgia and Alabama the range terminates somewhat tumultuously, giving a very rough surface to those districts. —The whole coast-line, except at the north, is low,—for the most part sandy, but in the middle States, and in those farther south, marshy,—the land sloping off gradually into the ocean. This low coast-line is bordered by many islands, consisting either of sand washed up by the sea, or of alluvium deposited at the mouths of rivers. There are, in consequence, few good harbors, though enough for commerce. The northern coast-line, especially in Maine, is of quite a different character, being rocky, abounding in harbors, and edged with rocky islands. —The surface of the country, from the sea to the mountain-border, is generally plain, though, of course, in the neighborhood of the mountains it begins to roll and becomes hilly. —The rivers are comparatively short, though those of the middle and southern Atlantic States are navigable for considerable distances. In New York there is a break in the mountain chain, and through this break descends the Hudson River, the most important river of the division. The other important rivers are the Delaware, Susquehanna, and Potomac (these also flowing through breaks in the mountain chain), and the Connecticut, James, Roanoke, and Savannah. A few of the remaining rivers may be learned from the map. At the mouths of some of the rivers are ocean inlets, or estuaries. Some of these are of commercial importance, and should be learned; *e.g.*, Delaware Bay, Chesapeake Bay, and Albemarle Sound. Long Island Sound is almost a salt-water lake. —Long Island, and Aquidneck or Rhode Island, are the only important islands. To the south of Massachusetts are some low-lying islands and “shoals,” very dangerous to navigation; and off the south of Florida are others even more dangerous, known as “keys.”—Cape Cod and Cape Hatteras are the important capes.

2. Soil and Climate.

To the Teacher.—Use the following notes in conversation, constantly referring to the map.

The soil in the more northern States of the division is not good—in Maine, especially, the surface is rugged and the soil poor, and agriculture but little followed. In New Hampshire

and Vermont much of the surface is mountainous; hence there is little arable land, but pasturage is rich and abundant. In Massachusetts, Rhode Island, and Connecticut, only the river valleys are fertile; but agriculture is everywhere pursued with scientific skill. New York, while the eastern and northern portions are rocky, has in its river valleys of the centre and west some of the most fertile land in the Union. Pennsylvania may be similarly described. New Jersey and Delaware, and the eastern part of Maryland, have low sandy soils, suitable, however, for market and fruit farming. Western Maryland and Virginia have rich agricultural areas; and the mountain valleys of these States, and of North Carolina, are especially fertile. In



Delaware and Maryland the swamps of the coast begin, and these are found at intervals all along the line, till in Florida they are almost continuous. However, the wide plain between the coast and the mountains in the south Atlantic States is well suited to the agriculture of a southern climate. —The climate of the division varies from a mild sub-arctic in northern Maine to a decided tropical climate in Florida. Throughout it is less subject to extremes, and less subject to sudden variations, than that of corresponding regions in the Mississippi Valley. This is owing to the influence of the ocean, and to the protection afforded by the mountain ranges. Rainfall is everywhere abundant, but not excessive. Snow falls throughout the whole division, but in gradually lessening quantities from Maine to Florida. The south-eastern coast is unhealthy, by reason of its swamps and excessive moisture; the corresponding inland sections, however, are quite healthful. —The vege-

tation of the more northern States corresponds to that of Ontario and eastern Canada. Such fruits as the grape and the peach ripen to the greatest perfection in New Jersey and Delaware, but the grape is cultivated for the making of wine in all the southerly States. Wheat is cultivated in all the States except Florida, but in the southerly States only on the highlands. Tobacco, though it matures most perfectly in North Carolina and Virginia, grows in all the States as far north as Connecticut. Rice grows in low districts of the south-eastern States, and cotton everywhere in these States, except on the highlands. The islands of the southern coast mature the famous sea-island cotton. Florida, while especially famous for its oranges and bananas, produces pine-apples, figs, lemons, guavas, pomegranates, olives, and cocoanuts. —Of forest woods there is also a similar gradation. The ordinary northern woods are found as far south as Virginia. The Carolinas are famous for their “pitch pine,” and “live oak,” each of great value for ship-building; while in Georgia and Florida.

are found in profusion the magnolia, palmetto, and cypress; and in Florida the mahogany and lignum-vitæ.

3. Occupations of the People and Industries.

—Every variety of human industry is pursued in this division, which comprises the oldest and most densely settled States of the Union. Generally speaking, however, the States as far south as Pennsylvania are more engaged in manufacturing than in other pursuits—the remainder more in the various branches of agriculture suited to their respective soils and climates. All the cities of the coast are engaged in commerce, but the commerce of the cities of the more northerly States exceeds that of all the rest of the Union.

To the Teacher.—The following may be given in addition:—Maine, and especially central Pennsylvania, are the seats of a great lumber industry, as are also northern New York and the Carolinas and Georgia. New Hampshire and Vermont are grazing States. All the New England States, but especially Massachusetts, Rhode Island, and Connecticut, are engaged in manufactures. In the manufacture of wooden wares, of cottons and woollens, boots and shoes, and of small hardware, these States are not surpassed by any communities in the world. New York and New Jersey also have manufactures of every sort. Pennsylvania has the richest coal mines, both anthracite and bituminous, in the Union, and also exceedingly rich iron mines; and in the production of these minerals, and the consequent manufacture of iron and steel, it exceeds every other State. Its production of petroleum, also, is the largest in the world, and the main source of the supply. Long Island, New Jersey, and Delaware, are largely given up to fruit farming and the raising of garden produce. Maryland, and especially Virginia, and the highlands of North Carolina, are the great scenes of tobacco culture. Cotton is grown in all the States from Virginia southward, more especially in South Carolina and Georgia. South Carolina is the principal rice-growing State, but this plant is also largely cultivated in Georgia. The two most southerly States produce sugar, but in small quantities as yet. Florida is every year being more and more devoted to the culture of oranges and bananas.—The fisheries of this division are very important, and include the whale fishing and cod fishing of the fishermen of Maine and Massachusetts, the fisheries of Long Island Sound, and the immensely valuable oyster fisheries of Chesapeake Bay.

4. Chief Cities.

To the Teacher.—Teach from the map the name and situation of the capital of each State. Rhode Island has two capitals. (The populations in the following lists are from the Census of 1880.)

NEW YORK (1,206,299) is the commercial metropolis of the State of New York and of the whole Union, the chief city of

the continent, and one of the great cities of the world. Including BROOKLYN (566,663), JERSEY CITY (120,722), HOBOKEN (30,999), and its many other suburbs, the population of New York is over 2,000,000, and in this respect it is exceeded only by London and Paris. In commerce it is also the third city in the world—London and Liverpool alone surpassing it. In addition to its immense foreign and domestic trade, it has an enormous number of manufactures, and it is the great money market and the second grain market of the nation. Its importance in the national life can hardly be over-estimated; it is the

centre of influence, its daily journals and other publications being more widely read and circulated than those of any other city. Its public buildings, parks, monuments, museums, libraries, etc., are all befitting the metropolis of a great nation.

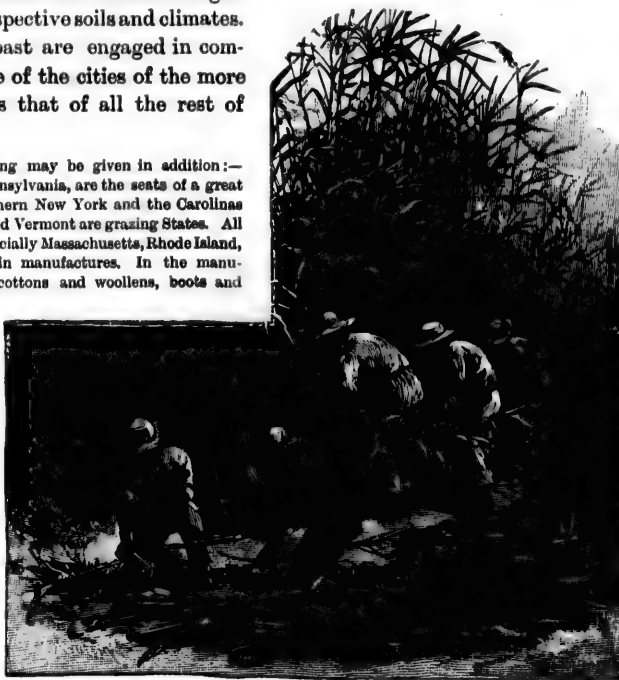
PHILADELPHIA (847,170) is a great manufacturing city; but its commerce, both foreign and domestic, by land and sea, is very important. It is one of the best built and most regularly laid out cities in the Union. In its museums and parks, and every sort of public institution, it is not inferior to New York.

BOSTON (362,839) is the metropolis of New England, and the great rival of New York in everything connected with literature, science, art, education, and social progress. It has a large

foreign trade and much shipping. At CAMBRIDGE, near by, is the famous Harvard College.

BALTIMORE (332,313) is a great cotton, flour, and fruit market, the chief centre of the oyster trade, and the leading port in North America for the importation from South America of coffee and guano. Its trade with Europe is also very great. It is the seat of Johns Hopkins University, one of the most important educational institutions on the continent.

WASHINGTON (147,293), in the District of Columbia, is the national capital. Among its more important public buildings are:—The Capitol (the largest edifice on the continent), the Treasury Building, the "White House" (the residence of the President), the General Post Office (built of white marble), the War and Navy Departments, and the Patent Office; also the



SUGAR CANE.

Smithsonian Institution, and the Corcoran Gallery. Near by are the United States Arsenal and Navy Yard. The city is regularly laid out and beautifully built.

PITTSBURG, Pa., (156,359) with its suburb ALLEGHENY (78,682), for its manufactures of iron and glass, ranks first in the Union. It is also the chief point for the distribution of coal.

BUFFALO, N. Y., (155,134) has a large grain trade with the west; and it and both ALBANY (90,758) and ROCHESTER (89,366) have a large trade with Canada in grain and lumber. TROY (56,747), SYRACUSE (51,792), and OSWEGO (21,116), also in New York, are noted manufacturing towns. Syracuse produces one-third of the salt used in the United States.

NEWARK, N. J. (136,508), PROVIDENCE, R. I. (104,857), NEW HAVEN, Conn. (62,882), LOWELL, Mass. (59,475), WORCESTER, Mass. (58,291), PATERSON, N. J. (51,031), FALL RIVER, Mass. (48,961), SCRANTON, Pa. (45,850), WILMINGTON, Del. (42,478), HARTFORD, Conn. (42,015), CAMDEN, N. J. (41,659), SPRINGFIELD, Mass. (33,340), and MANCHESTER, N. H. (32,630), are all noted for their manufactures—Providence, especially for silverware, tools, and lacings; Lowell, for cottons and woollens; Worcester, for boots and shoes and wire; Paterson, for silks; and Fall River and Manchester, for cottons. At New Haven is the celebrated Yale College.

PORTLAND, Maine (33,810), is the eastern terminus of the Grand Trunk Railway of Canada.

RICHMOND, Va. (63,600), and ATLANTA, Ga. (37,409), are the great centres of the tobacco industry.

CHARLESTON, S. C. (49,984), SAVANNAH, Ga. (30,709), NORFOLK, Va. (21,966), and WILMINGTON, N. C. (17,350), are seaport towns, exporting especially cotton, rice, lumber, and sweet potatoes. Wilmington exports turpentine.

ST. AUGUSTINE, Fla., (2,293) is the oldest town of the continent. It is a favorite health resort.

THE CENTRAL DIVISION.

1. Subdivisions and Physical Features.

To the Teacher.—The States and Territories as given above should be thoroughly learned from the map. The following notes respecting the Physical Features may be used in conversation:—The Mississippi and its two principal affluents, the Ohio and the Missouri, are the most noteworthy features of the division. The courses of these rivers, and of their tributaries, indicate the general slope of the country, which on the whole is very slight and gentle, and in consequence, these three main rivers, and many others of the division, are navigable almost to their sources. The eastern and western borders of the division being formed by mountain ranges, there is naturally a plateau region on either side, next within these borders; that on the east is more broken than that on the west. But the courses of the larger rivers are, in the main, through rich alluvial "bottom" lands; these are bordered by bluffs, beyond which, on either hand, level prairies stretch away to the hill regions. The whole southern portion of the division, however, is of very low altitude, and the lower course of the Mississippi is for a long distance on the same level with, or somewhat above, the neighboring country; so that throughout the States of Mississippi and Louisiana, to prevent inundation in times of flood, artificial banks, or levees, have been built.—Though the eastern plateau region is much broken by hills, there are elsewhere but few interruptions of the general prairie-like surface of the country, except the Ozark Mountains in Missouri, and the several heights of land in the north which separate the valley of the Mississippi from the two great lake systems of Canada. The Black Hills of Dakota, and the hills of western Texas, are

parts of the Rocky Mountain system.—The courses of the three great rivers named above, and of their principal tributaries (which together form the greatest river-system of the world), and also of the principal minor Gulf rivers, should be carefully traced on the map. It should be noticed that at Chicago, Toledo, Cleveland, and Rochester, the great central river system of the continent is connected by canals with the great north-eastern lake system.



2. Soil.—As regards soil, extreme fertility is the prevailing characteristic of this immense area.

To the Teacher.—The infertile localities are:—Northern Michigan and Wisconsin, the more broken parts of the eastern plateau region, and the district of the Ozark Mountains (all of which, however, are highly productive of mineral wealth); north-eastern Dakota, which is alkaline and saline like some parts of Assiniboia and Manitoba; the "Bad Lands" of south-western Dakota; western Nebraska and Kansas, which seem to be unproductive for lack of rain; the "Staked Plain" of north-western Texas, destitute of both grass and water, bearing only the branchless yucca, which gives it its name; mountainous south-western Texas; and the sandy or swampy regions of the Gulf coast.

3. Climate.—Of the climate of the Central Division there are the same gradations as in the Eastern Division; but, on the whole, this division is more subject to extremes of heat and cold, and to sudden changes of temperature, than the mountain-protected eastern coast region.

To the Teacher.—The same gradation also of vegetable production obtains, but with this peculiarity, that a great portion of all the central States of this division is naturally treeless; trees, however, grow with great luxuriance when artificially planted and protected, and arboriculture is every year more and more attended to. The north, east, and south of the division is either naturally wooded, or has been but recently cleared of its forests. The ordinary northern trees are found throughout the whole of this forest district—pine, oak, and hickory, flourishing abundantly even in Alabama, Mississippi, and Louisiana. But the trees of the south are ordinarily much more luxuriant and beautiful than those of the central or northern States, and the catalpa and magnolia, and many other beautiful varieties, are abundant. Spanish moss, used by upholsterers, and the "brake cane," a sort of reed, used for making paper, are also found everywhere in the Gulf States. The more northern States of the division produce plentifully the same grains as Ontario—wheat, oats, barley, rye, and buckwheat—and these are grown largely in all the States of the division, but (with the exception of oats) in very small quantities in Mississippi and Louisiana. Corn, however, is the principal

cereal in all the States, except the four most northerly. Kentucky is the great tobacco-growing State of the Union; and Ohio, Tennessee, and Missouri are engaged largely in the same industry. All the Gulf States and Arkansas and Tennessee produce immense quantities of cotton. Louisiana exceeds all the other States of the division in the production of rice; and in the production of sugar and molasses, which are among its chief products, it is almost alone. Rice, however, is grown in both Mississippi and Alabama.—In fruits there is again the same gradation in this division as in the Atlantic States. In Ohio, and some of the central States, the grape is largely cultivated for the production of wine. In the Gulf States the orange, pomegranate, and fig, are everywhere found.

4. Occupations of the People and Industries.

—The occupations of the people are the different agricultural, pastoral, commercial, manufacturing, and mining industries which the varied resources of soil and climate supply. But manufacturing is much less general than in the Atlantic States, and the manufactures much less varied; and, as in the Eastern Division, the northern, and more especially the middle States of the division, are much more largely engaged in manufactures than those toward the south; so indeed are those to the east more than those to the west.

To the Teacher.—The following notes may be used:—Agriculture is pursued wherever it is possible. Corn is the principal cereal product, and is raised in every State in the division, but in the prairie States, Illinois, Indiana, Iowa, Missouri, and Kansas, in immense quantities. Wheat is also very largely grown in these States, and in all others except those of the extreme south. Stock-raising is pursued everywhere, especially in the plateau regions of the east and west; Kentucky being especially celebrated for its fine breed of horses; Texas for its immense herds of cattle. Wool is a principal product in Ohio, and in all the eastern States of the division. Fruit-growing is pursued for profit everywhere—the grape and the peach being the fruits most cultivated. The manufacture of wine is an important industry in Ohio.—The production of lumber is still enormous, especially in the north, east, and south; Michigan is, however, the principal scene of the industry, manufacturing, as it does, about one-fourth of the whole amount used in the United States.—Ohio and Illinois are the States most largely engaged in manufacturing; Michigan, Missouri, and Indiana, next. All these States produce iron largely—Ohio being the second State of the Union in the amount of its production; and they all, with the exception of Michigan, produce coal largely. Coal is found in all the States of the division, except three to the north-west—Wisconsin, Minnesota, and Dakota; and two at the south—Mississippi and Louisiana; and this is very important, both as affecting

manufacture, and since, on account of the general treeless character of the prairies, coal is necessary for fuel.—The manufactures, except in the iron producing districts, are, in addition to tools and implements for agriculture, principally concerned with the conversion of the natural products of the soil into articles of food; e.g., canned and packed meats, flour and cornmeal, and preserved fruits. Besides the mining of coal and iron there are many other mineral industries. The copper mines of northern Michigan are superior to all others in the Union, and are scarcely surpassed anywhere. The lead mines in the neighborhood of Galena and Dubuque, on the Mississippi, are of world-wide fame. Petroleum is found plentifully in Ohio; and in

Michigan are some of the most productive salt wells on the continent. In the Black Hills in Dakota much gold is mined.—The fisheries of the north-east lakes are important, and resemble those of Ontario.—The Mississippi River system and the Great Lakes being natural waterways, the shipping of this division is very important. Lake and river freight is now transported mainly by means of barges drawn by steam vessels.

5. Chief Cities.

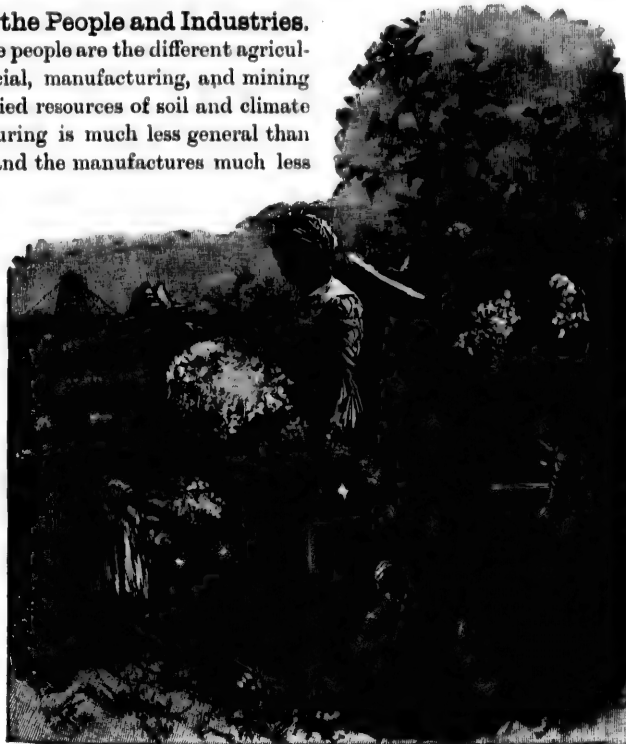
To the Teacher.—Teach from the map the name and position of the capital of each State and Territory.

CHICAGO (503,185) is the third city in the Union in respect of population, but the second in commercial importance. Its situation at the head of a great water system leading to the ocean, and at the centre of an immense railway system ramifying through one of the most fertile areas on the globe, makes it unrivalled as a grain market—in the Union, if not in the world. Its lumber trade is also enormous, and its manufac-

tures are very numerous. The growth of Chicago has been marvellously rapid: in 1831 but a dozen families lived in the area now occupied by the whole city.

ST. LOUIS (350,518) is scarcely second to Chicago as a railway centre, and its situation near the confluence of the Missouri and the Mississippi gives it great facilities for transacting business with the whole Mississippi Valley. It is also the third manufacturing city in the Union, and the first in the manufacture of flour. St. Louis is noted for its public parks and its beautiful "Botanical Gardens." The Mississippi is crossed at this point by an immense railway bridge; it is also bridged at several other places, but this is the lowest point.

CINCINNATI (255,130) is also a great railway centre, and for



PICKING COTTON.

river shipping it is unsurpassed. Its manufactures are connected mainly with preparation for sale of meats, breadstuffs, and fruits.

NEW ORLEANS (216,090) is the natural centre of commerce for the Mississippi Valley, but as yet it is not a great railway centre. It is the chief cotton market in the Union, one-third of the cotton raised in the United States being shipped from its port. It also exports sugar and imports coffee, largely.

CLEVELAND (160,146), DETROIT (116,340), and TOLEDO (50,137), are all railway centres and important shipping points, having many manufactures and a very large lake trade, and considerable trade with Canada. From Cleveland much of the coal used in Western Ontario is imported.

LOUISVILLE, Ky. (123,758), is the great centre of the tobacco export trade, Kentucky producing much more than any other State of all the tobacco raised in the Union. NASHVILLE, Tenn. (43,350), is a cotton and tobacco market; MEMPHIS (33,592) is also a cotton market. MOBILE, Ala. (29,132), is the third cotton market of the Union. VICKSBURG, Miss. (11,814), is also an important cotton market. GALVESTON, Tex. (22,843), the commercial metropolis of the south-west, exports hides, cotton, and grain.

INDIANAPOLIS (75,056) is a great railway centre, and a very important manufacturing place. KANSAS CITY, Mo. (55,786), ST. JOSEPH, Mo. (32,431), and LEAVENWORTH, Kan. (16,546), are the most important places in the central south-west. WHEELING, W. Va. (30,737), is a rapidly growing manufacturing town. OMAHA, Neb. (30,513), and DAVENPORT, Ia. (24,831), are important railway and commercial centres.

MILWAUKEE (115,587), as a general produce market, is second only to Chicago. MINNEAPOLIS (46,887) is noted for its manufacture of flour and lumber. ST. PAUL (41,473) is at the head of navigation on the Mississippi.

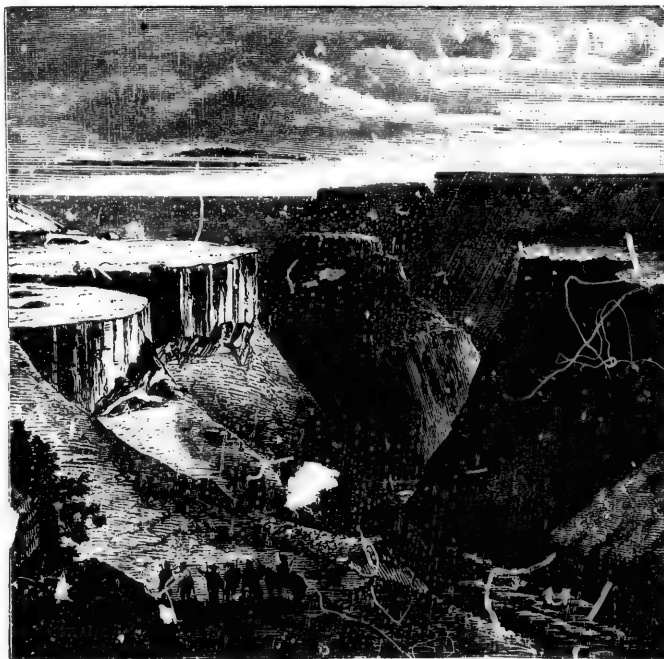
GRAND RAPIDS (32,016), BAY CITY (20,698), EAST SAGINAW (19,016), SAGINAW (10,525), and ANN ARBOR (8,061), are important towns in Michigan. Bay City and the Saginaw are especially famous for their immense production of salt and lumber; Ann Arbor for its fine university.

THE WESTERN DIVISION.

1. Subdivisions and Physical Features.

To the Teacher.—The States and Territories as given above should be thoroughly learned from the map. Respecting the Physical Features the following notes may be used:—The whole region is an elevated plateau, much broken by higher elevations forming mountain ranges, and in places intersected by large rivers, which usually have furrowed out for themselves very deep channels. The principal range is the Rocky Mountains; the Sierra Nevada, and the Coast and Cascade Mountains (these latter forming one range), are scarcely inferior in height. Between these main ranges are many other parallel ranges and some cross ranges.—In the division there are four

principal depressions, each with a river system of its own. In the northernmost depression is the Columbia River (with its main affluent, the Snake), a rapid stream, navigable, however, for considerable stretches. In the southernmost depression is the Colorado, also very rapid, but navigable for some hundreds of miles from its mouth. In north-western Arizona this river ploughs its way through an intervening plateau 6,000 or 7,000 feet above the sea, forming for itself a channel with vertical walls of rock 3,000 to 6,000 feet high. This channel, known as the "Great Canyon of the Colorado," is but one of many such found in this western plateau region, although none other is so large or wonderful as this. A third depression is the fertile valley in California between the Sierra Nevada and the Coast Range, drained by the Sacramento and San Joaquin (wah-keen) Rivers. The fourth depression is entirely interior, and is known as the "Great American Basin." It consists of western Utah,



CANYON OF COLORADO.

nearly all Nevada, and a small part of Arizona. This is a treeless, arid waste, diversified, however, by some mountain ranges and some large rivers; but the rivers do not find their way to the sea; they lose themselves in the sand, or in "sinks," or saline lakes. The Humboldt is the largest of these rivers, and Great Salt Lake the largest of the lakes.—In the upper part of the valley of the Merced, a tributary of the San Joaquin, is the famous Yosemite (yo-sem'-i-te) Valley, reserved for all time as a public park. The north-west corner of Wyoming is also reserved as a "National Park," and is famous for its wonderful geysers, and for its beautiful mountain and canyon scenery.

2. Soil.—The soil in those valleys which are not canyons is everywhere of great fertility. The mountain ranges abound in every kind of mineral wealth, and their sides are generally covered with forests of fir and pine. The interior and southernmost depressions, how-

ever, have little land fit for agriculture—and none so without irrigation.

3. Climate.—The climate has the same gradations as in the other divisions, but is much more equable.

To the Teacher.—On the western coast the winters are much shorter and milder than in corresponding regions eastward (winter being a season of rain rather than of snow), and the heat of summer is made bearable by the dryness of the atmosphere, the sea breezes, and cool nights. Throughout the whole division the snowfall is but small, except on the mountains, and in summer the rainfall, especially in the centre and south, is so slight that irrigation is everywhere necessary to make agriculture remunerative.—Southern California with its gentle, equable climate, and the high altitudes of Colorado, are much resorted to by invalids from the East suffering from pulmonary affections.

4. Occupations of the People and Industries.—Mining, agriculture, fruit-farming, stock-raising, and wool-growing, are the principal occupations of the people.

To the Teacher.—The whole country is new and sparsely settled as yet, but California is already one of the best States for agriculture in the Union, and in the production of wheat ranks seventh of the States, and in barley first. Grape culture, for the manufacture of wine, is an important industry in this State, and is somewhat followed in all the others. Raisins, prunes, figs, oranges, lemons, olives, citrons, pomegranates, almonds, walnuts, and other fruits and nuts, are grown in southern California and exported. The culture of the tea plant, the coffee plant, and the silk worm, are also pursued there. Timber is everywhere abundant, especially on the slopes of the mountains, but hard woods are rare. In central and southern California are found, though in small numbers, the celebrated "big trees," some of them over 100 feet in circumference, and over 400 feet high, computed to be nearly 2,000 years old.—In New Mexico and Arizona immense tracts of land are devoted to wool-growing and stock-raising; and so fitted are those countries for these industries that vast flocks and herds find there abundant and rich food in the bunch-grass of the plains, and require neither hand-feeding nor shelter.—But the main industry of this division has hitherto been mining. The most valuable metals and minerals are found in every State of the division. In the production of gold California has excelled every other country in the world, and its annual product is still immense. The silver mines of Nevada, Colorado, and Utah, are very rich; and these States all produce gold as well. Every other sort of mineral and metal is to be found; but with the exception of mercury, of which California produces great quantities, none other than the "precious metals" have been largely mined.

5. Chief Cities.

To the Teacher.—Teach from the map the name and position of the capital of each State and Territory.

SAN FRANCISCO (233,959) is the commercial metropolis of the west. Its harbor, which, however, is one of the best and largest in the world, is, with one exception (San Diego), the only good one belonging to the United States on the Pacific coast. San Francisco has regular steamboat connection with China, Japan,

Australia, Mexico, and Panama. The exports of the city are gold, silver, mercury, wheat, flour, wine, barley, wool, lumber, and silk. Its manufactures are very important, but are mainly for domestic use. At the mint here much of the money used in the United States has been coined. OAKLAND (34,555) and SACRAMENTO (21,420) are other important cities in California. LOS ANGELES (lōs an'jē-lēz) (11,183) is a popular health resort.

DENVER (35,629) is the emporium of the mining district of Colorado, and the seat of a United States mint. LEADVILLE (14,820) is famous for its production of silver, lead, and gold.

SALT LAKE CITY (20,768), VIRGINIA CITY, Nev. (10,917), SANTA FE (6,635), and HELENA, Mont. (3,624), are the remaining leading cities in the mining localities. At Virginia City are the richest silver mines in the United States, the celebrated Comstock Lode and the Big Bonanza.

PORTLAND, Oregon, (17,577) is the emporium of the north-west; its exports are mainly produce and lumber. WALLA WALLA (3,588) is the chief place in Washington Territory.

LESSON XXXIII.

MEXICO.

1. Position, Size, and Population.—Mexico lies between the United States and Central America; three-fifths of its territory is within the Torrid Zone. Its area is about 760,000 square miles. Its population is about 10,000,000.

2. Boundaries and Physical Features.

To the Teacher.—Teach the boundaries from the map; also the names and positions of the peninsulas and gulfs. For the most part Mexico consists of an elevated table-land (from 5,000 to 8,000 feet high), in reality a continuation of the western plateau of the United States. Several mountain ranges rise above this plateau region—continuations of the Rocky Mountain system. Hence all the rivers are short, impetuous, and unnavigable; and transportation, east and west, is exceedingly difficult, being effected principally by mules; but on the plateaus, between the mountain ranges, the roads are comparatively level. The entire coast of Mexico is low. Upon the west the mountains descend abruptly, and leave but a narrow shore-margin; the harborage, however, is good and abundant. Towards the Gulf side the mountains descend in a series of terraces, and leave a wider margin, but the coast is low and edged with drift-islands thrown up by the ocean currents which sweep round the shores of the Gulf; hence good harborage on that side is entirely lacking.—Across the country from east to west, a little south of the capital, is a narrow belt in which the mountains are all of volcanic origin—many of them still active volcanoes.

3. Climate, Soil, Vegetation, and Animal Life.—These all vary with the elevation above the sea-level. Near the coast the air is humid, the vegetation rank, and the climate unhealthy. Away from the shore, on the lower table-lands, the climate is temperate, and the vegetation similar to that of the southern or middle American States. On the higher table-lands the air is

dry, rain is scarce, the soil is infertile for lack of water, or can be made productive only by irrigation, and vegetation is stunted or altogether absent.

To the Teacher.—The following notes may be used in addition:—Generally speaking, there are two seasons, the "dry" and the "rainy," the latter lasting from May to October. In the south the coasts are regions of excessive rain;



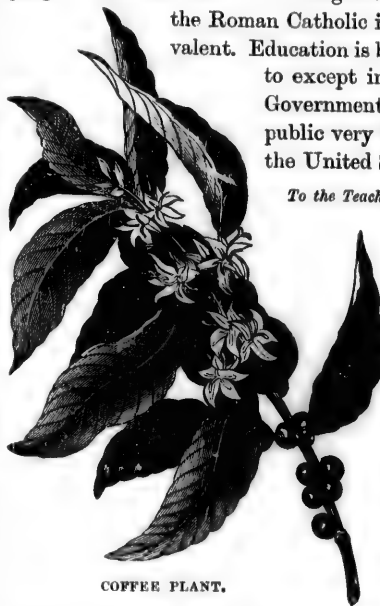
GATHERING INDIA-RUBBER.

on the highlands the rain is not excessive even in the wet season. In the north, and especially in the north-west, the dry season is prolonged, and the total annual rainfall is but scant.—The Mexicans divide their country into "Hot Lands," "Temperate Lands," and "Cold Lands," these distinctions depending almost entirely upon the elevation above the sea-level. Owing to the rapid decomposition of the rank vegetation and abundant shell-fish of the "Hot Lands," these are extremely unhealthy to any but natives; but the plains of moderate elevation in the interior enjoy a delicious climate, and a luxuriant and innoxious vegetation. The lowlands are remarkable for rich cabinet woods—mahogany, ebony, rosewood, etc.—and, besides, for the rubber tree. They abound also in giant palms and ferns, and in woods which are valuable as dye-stuffs or drugs. The banana and plantain (upon which the inhabitants of the lowlands principally live) are here very plentiful, as well as the manioc, or tapioca plant, and the mangrove; and Spanish pepper, of which the natives are very fond, is widely cultivated. In the rivers of these regions are found the crocodile and the cayman, and in the lagoons of the Gulf coast, the sea-cow; the forests swarm with parrots, humming-birds, monkeys, armadillos, sloths, gluttons, ant-eaters, and porcupines; and the tapir, jaguar, cougar, ocelot, tiger-cat, and peccary, are also found. In regions somewhat higher the sugar cane is cultivated; also the cacao, or chocolate tree, the vanilla plant, the coffee plant, the indigo plant, and the cotton plant (here a perennial); the climate is especially suited to the growth of these, but their cultivation is not prosecuted with energy. Silk-culture, too, to which the climate is suited, is now also neglected. In the "temperate lands" everywhere are found the olive, and grape, and the beautiful evergreen oak. On the upper highlands, the maguey, a sort of agave, is largely cultivated, being especially valued since from its sap is prepared the favorite beverage of the Mexicans. Maize is the principal food of the great mass of the people, and it is grown on all the highlands, as is also tobacco, of which the Mexicans, male and female alike, are inordinately fond. Wheat and barley mature perfectly on the highlands. On the plains in the interior, especially toward the north, are found great herds of bison, and besides, great droves of wild horses or "mustangs," and of wild cattle.

4. Occupations of the People.—The people appear to be indolent, and reap but small advantage from the magnificent resources of their country. The cultivation of maize and tobacco, of the maguey and the olive, and of the coffee and vanilla plants, are the agricultural industries which have received most attention. Cattle-grazing and sheep-raising are largely followed, and also mining. Manufacturing is not at all general, and is confined principally to sugar, rum, brandy, and olive oil.

To the Teacher.—In its production of the precious metals, especially of silver, Mexico has long been famous—it has produced more than two-fifths of the silver product of the world. The development of the country has been delayed by the difficulty of securing access from the interior highlands to the sea; railway construction on the table-lands is comparatively easy, but the descent to the seaboard can be accomplished only at enormous cost and as the result of the utmost engineering skill. The cultivation of the cochineal insect, valued for the beautiful carmine dye which it yields, is everywhere an important industry. It is found on the leaves of a kind of cactus, very abundant in Mexico.

5. People, Religion, Education, and Government.—Of the people 5,000,000 are Indians; 1,000,000 are native whites of Spanish descent; the remainder are Mestizoes, or people of mixed race. The Spanish language is that most used. All religions are tolerated, but the Roman Catholic is everywhere prevalent. Education is but little attended to except in the cities. The Government is a federal republic very similar to that of the United States.



COFFEE PLANT.

To the Teacher.—The aborigines of Mexico are very different from the North American Indians. When the country was conquered by the Spaniards, in the early part of the sixteenth century, the inhabitants had advanced some way towards civilization: they had a system of picture-writing, and some tribes had a phonetic alphabet; they had constructed a superior calendar; they were skilled in the working of metals and minerals, and had built large temples, pyramids, bridges, and

aqueducts. Their religious rites, however, were hideous and cruel, and their habits barbaric. Many extensive remains of the works of this wonderful people still exist.—Mexico became independent of the Spanish in 1823.

6. Chief Places.—MEXICO (260,000), the capital, is a handsome walled city, situated at the centre of one of the most fertile table-lands of the country. It contains the national palace, mint, and prison; a university, a public library, a museum, and a very splendid cathedral. It is the terminus of a railway from the United States, and it is connected by rail with the seaboard at Vera Cruz (vé'rä kroos).

VERA CRUZ (16,000), although its harbor is very poor, is the chief seaport. Its situation is unhealthy, but its foreign trade is important, comprising nearly all the exports of the country—silver, gold, and quicksilver; hides, cochineal, sugar, indigo, drugs, and logwood; and oranges, pineapples, bananas, and olive oil. ACAPULCO (ä-cä-pool'co) (5,000) has a fine harbor, but its trade is small. Its exports are hides, cedar timber, and fruit.—There are many other important cities—some very populous.



LESSON XXXIV.

CENTRAL AMERICA.

1. Position, Population, and Boundaries.—

Central America is the name given to that part of the American isthmus lying between Mexico and Panama (pä-nä-mä'), occupied by the British Colony of Balize (bä-leez'), and the five republican States—Guatemala (gwä-tä-mä'lä), Honduras, San Salvador, Nicaragua (nik-ar-ä-gwä) and Costa Rica (ree'kä). The population is about 3,000,000.

To the Teacher.—Teach the boundaries from the map.

2. Physical Features, Climate, and Productions.

To the Teacher.—These are all similar to those of southern Mexico, except that the rivers are larger, and the climate of the lowlands even more unhealthy. Volcanoes are very numerous, and earthquakes have been frequent. The natural resources of Central America—in mine, forest, and plantation—are of the richest possible sort; but on account of the continued instability of the governments, and for lack of capital, they have been but little developed. The mines yield gold, silver, copper, mercury, iron, platinum, and zinc. In the forests are obtained mahogany, ebony, rosewood, cedar, caoutchouc, Brazil-wood, logwood, fasile, copal, and Peruvian balsam. As results of cultivation, coffee, especially, and maize, are the principal products; other products are—cotton, cacao, tobacco, sugar, rice, vanilla, indigo, ipecacuanha, sarsaparilla, plantains, limes, lemons, oranges, and coconuts. Among the exports, besides the products named, are hides, skins, and cochineal. The ordinary domestic animals thrive well and are numerous. Among the wild

animals are the deer, peccary, tapir, monkey, opossum, ant-eater, tiger-cat, and puma; among the native birds, parrots, macaws, humming birds, and pelicans; and among the reptiles, the alligator and the iguana.—Lake Nicaragua and the river San Juan are navigable, and it has been proposed, by cutting a canal from the lake to the Pacific, to utilize these as a highway for ships from ocean to ocean.—Central America has suffered very severely from earthquakes,—especially in some of its capital cities.

3. People, Religion, and Government.—In the republics the people are descendants of the early Spanish conquerors, Indians, and Mestizoes or people of mixed race. The Spanish language is that usually spoken, and the Roman Catholic religion is everywhere prevalent. The States are independent of one another—not federated as in the United States or in Mexico. Balize, or British Honduras, is a crown colony; its people are principally English settlers, and negroes—descendants of the former slave population.

To the Teacher.—Like the aborigines of Mexico, the Indians of Central America had made considerable progress towards civilization at the time of the Spanish conquest. The remains of their pyramids, temples, grottoes, and arabesque ornamentations—although but few escaped destruction by the conquerors, and these have been almost buried under the accumulations of centuries of luxuriant vegetation—still excite the wonder of the traveller who, penetrating the jungles, succeeds in discovering them.

Teach from the map the positions of GUATEMALA (56,000), SAN SALVADOR (40,000), and BALIZE (4,000).

The Isthmus of Panama (or Darien) geographically is a part of Central America, though politically it belongs to Colombia, a republic of South America. As it is only from 30 to 70 miles broad, many plans have been proposed for making through it a passage for ships from the Pacific to the Atlantic; and a ship canal from Panama to Aspinwall, along the Chagres River, is now in process of construction, under the direction of De Lesseps, the celebrated French engineer. It will be entirely free from locks, and will have a slight current. It will cost \$220,000,000, and is to be completed in 1890. A railway also connects Panama and Aspinwall.

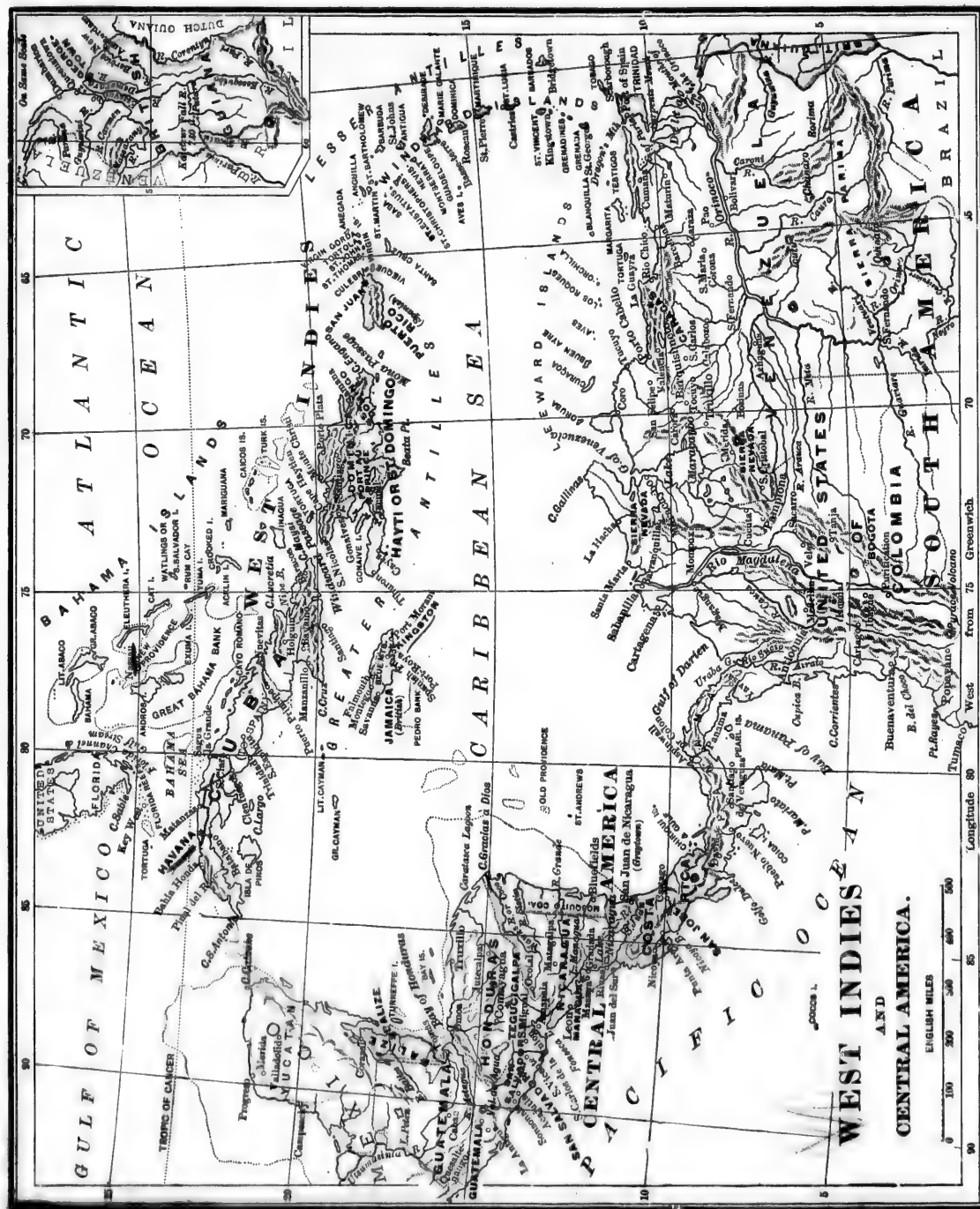
LESSON XXXV.

THE WEST INDIES.

1. Position and Natural Divisions.—The West Indies is the name usually given to the archipelago off the south of Florida, between the Gulf of Mexico and the Atlantic Ocean. They form four somewhat distinct groups, generally known as (1) the Greater Antilles (an teel'), which are the four larger islands, Cuba, Hayti, Jamaica, and Puerto (pwerto) Rico; (2) the Lesser Antilles; (3) the Bahama Islands; and (4) the Leeward Islands—off the South American coast.

To the Teacher.—The use of these names is variable; the phrase "Leeward Islands" has been taken by the British Government to denote a different group from that off South America.

2. Political Divisions.—Only one of the islands, Hayti, is independent; the remainder belong principally to Great Britain, Spain, and France.



THE BRITISH WEST INDIES.

1. Governments and Population.—The West Indian islands belonging to Great Britain are crown colonies, and, for convenience of government, are divided into several groups, *viz.*, (1) Jamaica, (2) the Bahamas, (3) the Leeward Islands, (4) the Windward Islands, (5) Barbados, and (6) Trinidad; to these may be added (7) the Bermudas, which, however, are not a part of the West Indian archipelago. The population is about 1,250,000.

2. Jamaica.—Jamaica is the largest of the islands belonging to Britain. Like that of all the West Indies.

its surface is very uneven. Its climate varies with the elevation above the sea, and though sometimes unendurable at the coast-level, in the higher regions it is always salubrious and extremely favorable to those suffering from diseases of the lungs. Snow never falls; and there are no frosts, though frosts sometimes occur in Cuba, and other of the more northerly islands. The productions are the usual staples of a fertile soil in a tropical climate. To the government of Jamaica belong Turk Island and Caicos.

KINGSTON (40,000) is the capital.

To the Teacher.—The soil of Jamaica is not so productive as that of some of the other islands, but its natural products may be taken as representing (of course with many variations) those of the West Indies generally. Products of the forests are:—Rosewood, satinwood, mahogany, lignum-vite, lancewood, cedar, and ebony, among woods; the bamboo; and logwood and fustic, among dyes. The pimentum, which is very common in Jamaica, but peculiar to it, yields a berry which furnishes our allspice. Products of the plantation are:—Sugar, molasses, rum, coconuts, palm oil, castor oil, and sunflower oil; cacao (or chocolate), ginger, arrowroot (of an excellent kind), cinnamon, pine-apples, oranges, lemons, limes, the breadfruit, pomegranates, olives, tamarinds, the cassava or manioc (tapioca plant), yams, maize, rice, the plantain, the banana, and the sweet potato—the last three forming the principal food of the blacks. The production of coffee, and of tobacco and cotton, though these are produced very abundantly in some of the West Indian islands, especially in Cuba and Hayti, are not leading industries in Jamaica. Ordinary vegetables grow on the hills. The common domestic animals, including the mule, thrive well and are numerous. In the sea along the coast is found the manatee, or sea-cow; and in the rivers, the cayman and the crocodile. The highly prized green turtle is exported. The lizard iguana is eaten for food, and so is the land crab, or to. toise. The scorpion and centipede are found; and ants, mosquitoes, figgers, and sandflies, swarm in the lowlands. There are many kinds of beautiful fireflies, and many kinds of parrots.

Jamaica is noted for the magnificence and variety of its flowers, among which should be mentioned its aloes; also the *Victoria Regia*, whose beautiful blossoms are more than a foot in diameter. The mineral products of Jamaica are not numerous or rich, and are principally copper and lead; but in many of the islands of the archipelago gold and other metals have been largely mined, and in some of the islands, salt, sulphur, and bitumen or mineral pitch, are now very important productions.

3. The Bahamas.—The Bahamas comprise about twenty inhabited, and many uninhabited, coral islands. Their climate is very salubrious. Salt and sponges (besides fruits) are the principal exports.

NASSAU (8,000), on New Providence, a popular health resort, is the capital.

4. The Leeward Islands.—The Leeward Islands consist of Antigua (an-tē-gā) and Barbuda, Montserrat, St. Christopher's, Nevis, Anguilla, Dominica (dom-i-nee-kā), and some of the Virgin Islands.

ST. JOHN'S (9,000), on Antigua, is the capital.

5. The Windward Islands.—The Windward Islands consist of Grenada and the Grenadines, St. Vincent, St. Lucia, and Tobago.

ST. GEORGE (5,000), on Grenada, is the capital.

6. Barbados.—Barbados is one of the most important of the British West India islands. It is famous for its abundant production of sugar.

BRIDGETOWN (21,000) is the capital.

7. Trinidad.—Trinidad, next to Jamaica, is the largest of the British West Indies. It is famous for its wonderful asphalt lake, 90 acres in extent, of pure mineral pitch, of which great quantities are exported.

PORT OF SPAIN (32,000), one of the finest towns in the West Indies, is the capital.

8. The Bermudas.—The Bermudas are noted for their salubrious climate, and are much resorted to by invalids from Canada and the United States, especially from November to April.

HAMILTON (2,000) is the capital.

Exercise.—1. Compare the government of Jamaica with that of Ontario. 2. Trace on the map the route of a steamer from Montreal to Port of Spain. 3. What is the nature of the commerce between the West Indies and Canada?



THE PINEAPPLE.



FOREIGN AND INDEPENDENT ISLANDS.

1. Spanish Islands.—The Spanish islands are Cuba and Puerto Rico. Cuba is by far the largest of all the West Indian islands, being 650 miles long, and having an average breadth of 80 miles. It is over ten times the size of Jamaica. Its population is about 1,400,000, of whom nearly 400,000 are slaves, and 60,000 Chinese coolies. Education is in a very backward state. The Roman Catholic religion is the only religion tolerated. The government is the despotic authority of the Governor-Captain-General. For the production of sugar, tobacco, and coffee, and for all fine tropical fruits, Cuba has an unrivalled soil and climate; its forests consist of useful palms, and the best and most prized cabinet woods; and its mineral resources are exceedingly rich; yet, owing to bad government, agriculture and commerce languish, its forests are comparatively unbroken and its minerals undisturbed. Puerto Rico resembles Cuba in climate and productions; but in that island slavery is abolished. The population of Puerto Rico is about 750,000.

HAVANA (ha-van'-a) (206,000) is the capital of Cuba. SAN JUAN (27,000) is the capital of Puerto Rico.

2. Hayti.—Hayti is the only independent island, but it has been the scene of many disastrous political changes. It consists of two political divisions—the Republic of San Domingo, with a population of 300,000; and the Republic of Hayti, with a population of about 100,000. Hayti is probably the most fertile, and the most favored with mineral resources, of all the West Indies; but the terrible political disorders of the island have hitherto made prosperity impossible.

SAN DOMINGO (20,000) is the capital of San Domingo. PORT-AU-PRINCE (20,000) is the capital of Hayti.

3. French, Danish, Dutch, and Venezuelan Islands.

To the Teacher.—To the French belong St. Bartholomew, Désirade, Guadeloupe, Marie Galante, and Martinique, all in the Lesser Antilles; to Denmark belong St. Thomas, St. John, and Santa Cruz, all near Puerto Rico; to the Netherlands belong St. Martin and St. Eustatius in the Lesser Antilles, and some of the Leeward Islands off South America; to Venezuela belong the remaining South American islands.

Teach from the map the positions of the various groups of islands, and of the important seas and channels adjacent to them; also the capitals mentioned in the text. The import trade of the West Indies is of considerable value to Canada, since they require from us fish, flour, meat, and lumber.

Give to the pupils some account of the Gulf Stream. It is a vast ocean current which flows out from the Gulf of Mexico past Florida, and northward parallel with the shores of the United States to Newfoundland, thence eastward to the shores of the British Islands and Norway. Its waters are everywhere warmer than those of the ocean beside it; hence it has great effect in modifying the climate of the countries whose shores it laves.

LESSON XXXVI.

SOUTH AMERICA.

1. Position, Size, Population, and Boundaries.—South America lies for the most part in the southern half of the Western Hemisphere. It is about 4,800 miles long from north to south, and about 3,200 miles wide. Its area is estimated at 6,800,000 square miles. Its population is estimated to be about 29,000,000.

To the Teacher.—Teach the boundaries from the map.



ROUNDING CAPE HORN.

2. Political Subdivisions.—In South America are ten separate and independent nationalities, viz.:—The Empire of Brazil; and Venezuela, the United States of Colombia, Ecuador, Peru, Bolivia, Chili, the Argentine Republic or La Plata, Paraguay, and Uruguay—all republics. In addition, there are three colonies under European governments—British Guiana, Dutch Guiana, and French Guiana.

To the Teacher.—Teach the positions and boundaries of these subdivisions from the map. The following statistics may be used for the purpose of making comparisons:—Of Brazil the area is 3,219,000 square miles; the population, 10,000,000. Venezuela: area, 566,159 square miles; population, 2,200,000. Colombia: area, 331,420 square miles; population, 4,000,000. Ecuador: area, 248,380 square miles; population, 1,000,000. Peru: area, 405,040 square miles; population, 2,970,000. Bolivia: area, 481,600 square miles; population, 2,325,000. Chili: area, 307,525 square miles; population, 2,350,000. The Argentine Republic: area, 925,000 square miles; population, 3,000,000. Paraguay: area, 92,000 square miles; population, 476,000. Uruguay: area, 72,112 square miles; population, 520,000. British Guiana: area, 85,442 square miles; population, 252,000. Dutch Guiana: area, 40,000 square miles; population, 70,000. French Guiana: area, 27,560 square miles; population, 35,000. (NOTE.—These figures are only approximately correct; accurate information in the matter is unattainable.)

3. Physical Features.

To the Teacher.—Teach the Physical Features from the map in a series of conversations. The following notes may be used:—The great mountain range, known as the Andes, is the principal feature of South America, and one of the most remarkable on the globe. It extends from the southern extremity of the continent—Cape Horn—along the entire western side, parallel with the coast, from 50 to 200 miles inland, to the isthmus of Panama, a distance of 4,800 miles. In the extreme south the range is only a series of detached peaks, and throughout its whole portion it consists of but a single chain; but towards the north of Chili it begins to divide, and in Bolivia it spreads out and forms an immense elevated plateau of rocks. Throughout Peru there are two chains; in Ecuador these again unite and form the most wonderful series of volcanoes in the world, in the midst of which lies the fertile table-land of Quito. Thenceforward there are three branches—the westernmost running to the isthmus and so on into North America, the easternmost terminating alongside the Gulf of Venezuela. Throughout their whole length the Andes are of great height (next to the Himalayas the highest mountains in the world), but they are higher in their central portions than elsewhere. Aconcagua, in Chili, is said to be the loftiest peak, and its summit is 23,290 feet above the sea; Chimborazo, near Quito, is 21,420 feet high; the volcano Cotopaxi is 18,850 feet high, and the volcano Antisana is 19,148 feet. There are but few passes across the Andes, and even those are all of immense height, and very dangerous, and only practicable for mules and llamas. The Andean range, with its contiguous table-lands, occupies one-sixth of the entire surface of the continent. It divides the continent into two divisions—that to the west being a narrow table-land with precipitous and rough descents to the sea, and having only short and unnavigable rivers; that to the east being a vast plain, for the most part extremely level, but broken by a series of parallel mountain ranges and a plateau region in eastern Brazil, and by another series of short mountain ranges and a plateau region to the north of Brazil.—A second great physical feature, scarcely less wonderful than the Andes, is the River Amazon, the largest river in the world: it has a great number of very large affluents, and principal and tributary streams alike are navigable for immense distances. The Orinoco, to the north (connected by a natural canal with the Amazon), and the Parana (pá-rá-ná), (with its tributary, the Paraguay), at the south, are also great navigable rivers. The San Francisco, in the east, is, with but one interruption, navigable for a thousand miles.—The whole coast-line of South America is but little indented by bays or inlets; and harbors are not plentiful, especially on the western coast; southern Chili has numerous bays, but they are of little value, as their shores are edged with lofty mountains.—Nor are the islands numerous—the principal being (in addition to those comprised within the West Indian archipelago) Marajo, Terra del Fuego (twa'-gó), and Chiloe (cheel-o'-á), all adjacent to the coast; the Falkland Islands, belonging to Great Britain; and the Galapagos Islands, belonging to Ecuador. The shore islands of the south-west are merely volcanic rocks.—There are exceedingly few lakes: Maracaybo (má-rí-ki'-bo) is a sea-inlet, whose waters, however, are only brackish; Titicaca (te-te-chí-cá), which is about two-thirds the size of Lake Ontario, is 13,000 feet above the sea; and though its waters overflow into a smaller lake, this latter has no outlet.—Between the mainland

and Terra del Fuego is the Strait of Magellan, an intricate and dangerous passage 300 miles long, where the tides rise 50 feet; hence it is not available for sailing vessels,—these must round Cape Horn.

4. Climate and Soil.

Three-fourths of South America being within the torrid zone, and the greater portion of the remainder being within the warmer part of the temperate zone, the climate is necessarily hot; but in a great part of the continent excessive heat is prevented by counteracting influences. There are two seasons—the dry season, and the rainy, the average length of the latter being from January to May inclusive, but varying greatly in different regions.—In the mountainous parts there is naturally a great deal of soil unsuited to agriculture; in other parts the fertility of the soil depends upon the rainfall, being, as a rule, greatest where that is greatest; however, a great proportion of the whole continent is extremely fertile.



To the Teacher.—In the Andean region, from about the 30th parallel of latitude to the northern boundary of Peru, while on the eastern side of the mountains the rainfall is fairly abundant, to the west, beyond the mountains, but little or no rain falls; hence the whole of maritime Peru and northern Chili is arid and sterile. Rocky south-western Bolivia is also unproductive. South of the 30th parallel, while rain is abundant on the western side of the mountains, it is scant, or absent, to the east beyond the mountains;

hence the soil of western La Plata is arid and unproductive. But the valleys and slopes of the Andes (especially those on the eastern side north of the 30th parallel, and those on the western side south of that parallel) are regions of great fertility, supporting abundantly the vegetation of their respective climates; and, as in all mountainous countries, these climates vary with the height above the sea-level. In Colombia and Ecuador, where the rainfall is excessive, the coast regions are hot and unhealthy, vegetation rank, the soil marshy, and pestilential insects incredibly abundant; the corresponding districts of Peru and northern Chili being, as has been said, arid deserts. But higher up the slope the climate is at first subtropical, and then most agreeably temperate, and finally, in the region of the snow-clad mountain-tops, completely arctic. Some of the Andean plateaus—for example, that of Quito—are regions of perpetual spring,—a little rain falling every day, the temperature remaining delightful.—In the great plain of the eastern division, the basin of the Amazon is visited by constant rains, the soil is of great fertility, and the whole basin is covered with dense luxuriant forests, called *Silves*. These forests, and the prevailing east winds which sweep up the Amazon and its immense tributaries—the courses of which nearly all lie exposed to their direction—and the presence of vast bodies of water, are such modifying influences, that the climate of the Amazon region, though it lies

directly under the equator, is neither excessively hot nor unhealthy.—South of the Amazon basin the rainfall is less excessive: in southern Brazil rain is sufficiently abundant six months of the year, and not completely absent at other times; but in La Plata, especially in its middle area, the dry season is completely destitute of rain, and is somewhat prolonged. Here are the *Pampas*, immense level, treeless, stoneless plains, naturally fertile, and in the rainy season clothed with coarse but nutritious grass, and tall artichokes; but in the rainless season completely losing their vegetation, and presenting the appearance of useless deserts. Southern La Plata, or Patagonia, again, is an arid, sterile region, its soil being for the most part coarse sand and gravel; and Terra del Fuego is the "Land of Desolation;" its climate is most wretched—mist, and rain and snow in long-continued storms, being its only phases.—North of the basin of the Amazon the coast regions are well supplied with rain all the year round, and the soil is productive and the surface naturally wooded with the finest tropical trees; but in the basin of the Orinoco there are vast level plains called *Llanos*, similar to the *Pampas*, where the seasons are either very rainy or completely rainless. During the rainy season these plains are covered with a most beautiful soft and nutritious herbage; but in the rainless seasons they become baked by the sun, and all vegetation entirely disappears from them. These *Llanos*, or "Steppes of Caracas," as they are sometimes called, are the hottest parts of South America.

5. Vegetation.

—The vegetation of South America is of great variety, and for the most part exceedingly luxuriant. In the tropical Andean regions it ranges, according to the elevation, from the richest and most valuable plants, fruits, and trees—peculiar to warm climates—to the oak, wheat, maize, potato, and such other products as are usually associated with the temperate climate of Canada. The forests of the Amazon are rendered impenetrable by the rich festooning and clinging drapery of climbing plants and creepers, and consist almost entirely of the most valuable woods for ship-building, cabinet work, and dyeing. The climate of vast areas of the continent in the intertropical part is especially suited to the cultivation of coffee, tea, sugar, cotton, cocoa, rice, maize, tobacco, the rubber tree, yams, and the manioc, or tapioca plant.—In the temperate regions, east of the Andes, grass for cattle is abundant, but agriculture is neglected and the capabilities of the soil are

unknown; in the rainy districts of the western Andean slope, the country is naturally wooded with evergreen forests, and though the climate is too moist for cereals, root-crops thrive perfectly.

6. Animal Life.

To the Teacher.—It is not intended that the names given in the following notes should be memorized as mere lists; they are merely topics for simple and interesting lessons in natural history, to be conveyed to the pupils in conversations.—The South American forests are largely in the possession of monkeys—excellent tree-climbers, that use their tails as dexterously as their hands, and rarely descend to the ground. Other inhabitants of the forests are, the tapir, the armadillo, the ant-eater, the sloth, and the peccary. The principal beasts of prey are, the jaguar or American tiger, the puma or cougar, and the ocelot—all tree-climbers and inhabitants of the forests, the jaguar and the puma being much dreaded, and very destructive of domestic animals in forest settlements.—In the Andes the llama is a beast of burden, much more sure-footed than the horse or mule; the alpaca, a gregarious animal allied to the llama, inhabits the highest ranges, and is valued for its long, fine, silky wool, and has become partially domesticated; and the vicugna (vee-coon'ya), also allied to the llama, inhabits the loneliest peaks, and is much prized for its fine, short, curled wool. In the Andes, too, is found the chinchilla, a little animal of the size of the rabbit, whose fur is an important article of commerce. In some parts of Brazil and Guiana, vampires, or blood-sucking bats, are numerous, very destructive of domestic animals, and formidable even to man.—On the *Llanos* and *Pampas* immense herds of wild cattle and horses are found, descendants, however, of



CONDORS.

stock originally imported from Europe; and throughout the continent are many varieties of deer.—In the tropical area the marshes abound in large boas, constrictors and venomous rattlesnakes, and fairly swarm with scorpions and centipedes; and the rivers contain hosts of alligators and porpoises, and their banks are the homes of multitudes of water-hogs and turtles. In the coast regions of the equatorial parts, life is rendered miserable by the incessant stings of poisonous insects; and in both seas and rivers, fish of very many kinds are inconceivably abundant, but owing to the heat of the climate they are of little value for food.—Of birds, the condor, whose home is on the highest peaks of the Andes, is the most wonderful, being said to visit twice a day the coasts, 100 miles distant, to feast on shell-fish, and to be able to reach, by flying, a height of six miles. Sea-fowl are very numerous, as are also eagles and vultures; and in the forests are myriads of humming-birds, parrots, toucans, and many other birds of brilliant plumage.—Off the north-west coast the pearl oyster is abundant, but pearl fishing is not much prosecuted, for fear of cuttle-fish.—A very valuable commercial product of the whole western side of South America is guano, or the excrement of sea-fowl; it is found on the islands and shores of the coast, and is exported in large quantities to Europe and North America for use as manure.

Animals of South America.



1. MONKEYS. 2. ANACONDA. 3. JAGUAR. 4. TOUCANS. 5. TAPIRS. 6. PECCARIES, OF WILD HOGS. 7. ARMADILLO. 8. ANT-EATER. 9. LLAMA. 10. CONDORS. 11. CAYMAN. 12. NANDUS, OR RHEAS.

To the Teacher.—Monkeys are exceedingly numerous in all the tropical regions of South America, but especially in the forests of Brazil. They are of infinite variety,—among them being the large sluggish “howling” monkey, the easily tamed “spider” monkey, the thumbd “woolly” monkey, the beautiful little “squirrel” monkey, and the marmoset,—all having prehensile tails, and of arboreal habits; and, besides, the timid “short-tailed ape,” which rarely ventures higher than the tops of bushes.—The Jiboya, or Boa-Constrictor, a large serpent, sometimes twenty feet in length, inhabits the dry and sandy tropical districts. It is not venomous, and is afraid of man. It feeds on small animals, such as ant-bears and the lesser monkeys, though at times it seeks larger prey. Its jaws are capable of enormous extension. The Anaconda, or Water Boa, is a much more formidable creature; it is sometimes forty feet in length, and is the largest serpent now known. It inhabits lakes, rivers, and marshes, is exceedingly voracious, and feeds on fishes, and upon any animals which it can seize when they are unwarily drinking. It occasionally visits farm-yards, and carries off poultry and young cattle.—The Jaguar is the largest animal of the cat kind in the western continent. It was once exceedingly numerous in South America. It preys by preference upon large animals, such as the horse, tapir, deer, dogs, and cattle. It is of immense strength, and has been known to swim across a river with a horse it had killed, and carry it off into the forest.—The Toucan is a gaudy-colored bird with an omnivorous appetite,—greedy of fruit, but equally delighting in small birds, its powerful bill enabling it to kill them with a single squeeze.—The Tapir is a thick-skinned animal which feeds upon the young shoots of trees and on fruits, but it relishes almost anything that comes in its way. It is inoffensive to man, but is a favorite prey of the jaguar, from which, however, it sometimes frees itself by rushing into water.—Peccaries somewhat resemble our domestic hogs; they live in herds.

When assailed they vigorously defend themselves with their sharp tusks. Their flesh is eaten.—The Armadillo is covered with a bony coat of armor. It is a nocturnal animal, and burrows in the earth for its food. Some species greedily devour the semi-putrid carcasses of wild cattle that have died on the Pampas, and even burrow into the graves of human beings.—The Ant-Eater, or Ant Bear, is a toothless animal, with a long round slender tongue which easily seizes the ants and other insects that form its food. It is unsocial and stupid, and spends much of its time in sleep.—The Llama has long been domesticated as a beast of burden. Its usual load is about 125 lbs., which it will carry twelve or fifteen miles a day. Without its aid the silver mines of the Andes could scarcely be worked.—The Condor is an exceedingly voracious creature. It prefers carrion to other food, but it does not hesitate to attack goats, sheep, and deer. When gorged with a heavy meal it becomes stupid, and is then easily captured.—The Alligator, or Cayman, abounds on the Amazon and Orinoco, and the silence of these regions is said to be rarely broken except by its nocturnal bellowing.—The Nandu, Rhea, or American Ostrich, inhabits the plains of the Argentine Republic. It lives in families, the male bird hatching the eggs. The natives of Patagonia chase it on horseback, and capture it by throwing the *bola*—a ball attached to a string, something like a lasso.

7. Minerals.—The mineral wealth of South America is very great, and in the Andes are some of the richest mineral regions in the world—in fact, almost all the useful minerals and metals are abundant throughout the whole range. The silver mines of Potosi (pō-tō'-see) in Bolivia, and of Pasco in Peru, have been worked for three centuries, and are still, next to those of Mexico, the richest known. Silver is found also in Chili. Gold, also, is found in all these countries, but more abundantly in Brazil and Colombia. For the production of copper Chili has few rivals. In the mountain valleys north of Rio Janeiro, in Brazil, are found the most valuable precious stones—diamonds, especially, and emeralds, sapphires, rubies, and topazes. In Colombia are found the finest emeralds in the world. Coal is found plentifully in Brazil, Colombia, and Chili.

8. People.

—The ruling classes in Brazil are of Portuguese descent; in all the republics they are of Spanish descent; in the colonies of Guiana they are settlers from the respective mother countries.

To the Teacher.—The ruling classes of pure blood, Creoles, as they are called, are but a small proportion of the whole population; the Mestizoes, or mixed races, are much more numerous, and share with the Creoles all positions of influence.—The Indians of South America are of countless tribes, but in general they may be described as more amenable to civilizing influences than the Indians of North America.—The Indians of Peru, under their rulers, the Incas, at the time of the Spanish conquest were well advanced in civilization, and had made considerable progress in the arts—in architecture, sculpture, road building, weaving, and metal working; they possessed an excellent political organization, and though unwarlike, they had the art of taming and holding in subjection other tribes. Their descendants, the Quichus, however, are given to excessive intoxication, and have much deteriorated.—The Guaranis, or native Indians of Brazil, are mild and patient, and have been largely amalgamated with the settled population. The Pampas Indians are rude and untameable, and the Gauchos, or Pampas halfbreeds, are almost equally fierce; they hold agriculture in contempt, eat nothing but beef, and live almost entirely on horseback.—The Patagonians are giant-like in stature, the tallest race on the globe; their manners, however, are those of animals.—The Fuegians are a small stunted race, among the most barbaric of mankind; they live principally upon raw shell-fish, and are terribly cruel to any unfortunate white people whom they may capture.—The Araucanians of Chili

deserve especial mention: They were an exceedingly intelligent, brave, and warlike race; for manliness and energy of character they surpassed all other American natives; for two centuries they resisted all attempts at subjugation, and finally expelled the Spaniards (whom they held in contempt) from their country. But of late, owing to lessening numbers and the enslavement of drunkenness, they have to some extent acknowledged Chilian authority.—In Brazil there are many negroes, and negro mixed races, descendants of slaves that have been brought over in immense numbers from Africa; but the slaves are being gradually emancipated, and slavery will soon be unknown. In the northern part of the continent are also many negroes, and many coolies, or Chinese who have been imported as laborers.

9. Occupations of the People and Industries.

—The principal industries are mining, cattle-grazing, and sheep-farming, the cultivation of coffee and tropical fruits for export, and the cultivation of maize and the manioc for home consumption, and the collection of the leaves

of the maté (mä-tay), or native tea. There are few manufactures except in Brazil, and not many even there.

10. Products and Exports.

—The natural productiveness of South America is so great that its products, either used in

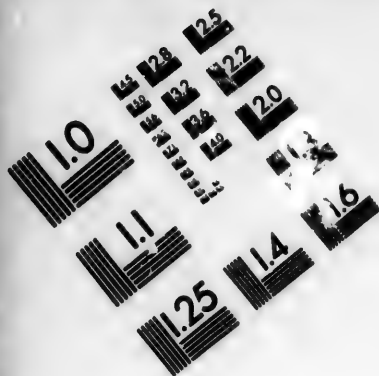


GAUCHOS LASSOING CATTLE.

home consumption or exported to foreign countries, are extremely numerous and valuable.

To the Teacher.—The following notes may be used in conversation, the map being constantly referred to:—The exports of mineral products are principally, gold and silver, and diamonds, topazes, and other precious stones, and iron, from Brazil; silver, from Bolivia and Peru; silver and copper, from Chili—but all these countries plentifully produce other minerals and metals. Salt is a principal article of production in Brazil and Colombia; and nitrate of soda, or nitre (used in the manufacture of gunpowder), is an extremely valuable export from Peru, Bolivia, and Chili.—Of the products of the tropical forests, the following are largely exported: Brazil-wood (which yields a red dye-stuff), logwood, and fustic; rosewood, ebony, mahogany, and tortoise-shell wood; caoutchouc (from the rubber tree—a most valuable export), and vegetable ivory (of which buttons are made—the kernel of the nut of a sort of palm); cinchona, or Peruvian bark (from which quinine is obtained), ipecacuanha, calisaya bark, balsam of tolu, and sarsaparilla (obtained from the roots of a shrub, a sort of smilax); bamboo; copal gum; and palm-wax (of which candles are made).—Of the tropical fruits the banana is the most important, as it is the chief food of the native Indians; other important fruits are, the pineapple, orange, mango, and guava; and to these may be added many kinds of nuts.—The most important product of cultivation is coffee, which is the principal export of Brazil; but sugar, tobacco, cotton, rice, cacao (or chocolate), indigo, vanilla, and tapioca, are valuable exports also.—From Colombia are exported







panama hats, and also the fibre of the palm-like tree from which these hats are made.—Hides, tallow, horns, and wool, obtained from the cattle and sheep of the Pampas, are the principal exports of the temperate regions. Deerskins are exported from all parts; and guano from all the western coast from Peru to Patagonia. Pearls, and mother-of-pearl, are exported from Colombia.

11. Facilities for Transportation.

To the Teacher.—The eastern division of South America, in its magnificent rivers, is abundantly supplied with natural facilities for transportation; railway construction, too, is comparatively easy, and already about 6,000 miles of railway have been built. In the western division, and in the Andean region, there are no natural facilities for transportation; packing by mules and llamas must be resorted to; however, in Peru and Chili about 3,000 miles of railway have lately been constructed, and the development of the natural resources of these countries will hereafter, it is hoped, be much more rapid than heretofore.

12. Governments.—Brazil is a constitutional empire; British Guiana, Dutch Guiana, and French Guiana, are crown colonies. The remaining States are constitutional republics with governments modelled after that of the United States; but their history has been almost constantly one of terrible disorder—first in bitter struggles for freedom from Spanish thralldom and for independence; then in sanguinary revolutions, or in long international conflicts. Even in Chili, the most stable of all the republics, life and property are said to be very insecure.

13. Religion and Education.—Throughout the whole of South America, except Guiana, the Roman Catholic is the prevalent religion; it is established by law in Brazil, Chili, the Argentine Republic, Peru, and Paraguay—in Peru none other is tolerated; in Brazil, none other openly so. Education is well provided for in Brazil, Chili, Colombia, and the Province of Buenos Ayres; in Ecuador, and in Peru especially, it is in a very backward state.

14. Chief Cities.

To the Teacher.—Teach from the map the name and position of the capital of each state.

RIO JANEIRO (rî'ô jâ-nee'-rô) (350,000), the capital of Brazil, is the metropolis of South America. Possessing one of the finest harbors in the world, and being the terminus of several lines of railway, its commerce, both foreign and inland, is very great. It is the seat of the principal offices of the Imperial Government, and of an imperial college, of several medical colleges, of a naval and military academy, and of many public schools. Its libraries, museums, and botanical gardens are much noted. **BAHIA** (bâ-ee'â) (128,929), 800 miles north of Rio Janeiro, has an excellent harbor and a large foreign trade, and is much celebrated for its whale fisheries, once the most important in the world. Its churches, monasteries, and convents, are very numerous. **PERNAMBUCO** (116,671) has a large European trade.

BUENOS AYRES (hō'-nos ai'-rez) (295,000), the capital of the Argentine Republic, is a beautiful city, with an enterprising and highly intelligent populace. It is the terminus of several important lines of railway, and its commerce is very great; but its want of good harborage is a serious drawback to its progress.

SANTIAGO (150,367), the capital of Chili, is situated amidst the grandest mountain scenery in the world. Its walks and gardens are extremely beautiful, and many of its houses and public edifices are splendid and elegant; but as the city suffers much from earthquakes, all its buildings are usually of but one storey in height. **VALPARAISO** (vâl-pâ-rî'-sô) (97,737) is the port of Santiago, and the principal port on the Pacific coast. It possesses a fine foreign trade.

LIMA (lee'mâ) (101,488), the capital of Peru, in general appearance is the most splendid city of South America. Its university, which is much celebrated, possesses a fine museum of Peruvian antiquities. **CALLAO** (cal-lâ'-ô) (34,492) is the port of Lima.

QUITO (kee'tô) (80,000), the capital of Ecuador, has suffered much from earthquakes. Though situated almost directly under the equator, eleven snow-capped mountains are in view from the city.

MONTEVIDEO (115,000), the capital of Uruguay, **LA PAZ** (76,372), the capital of Bolivia, **CARACAS** (câ-râ'-kâs) (55,368), the capital of Venezuela, **BOGOTÁ** (bo-go-tâ') (41,000), the capital of Colombia, and **ASUNCION** (15,000), the capital of Paraguay, are the remaining important cities in the republics.

GEORGETOWN (36,567), the capital of British Guiana, is built below the level of high tide, and has canals running through its streets. It has large exports of sugar and coffee.

Exercise.—1. Compare South America with North America in respect of (1) shape, (2) size, (3) population. 2. Describe the Andean regions: (1) in respect of their physical features, (2) in respect of their climate and productions. 3. Describe in similar manner the basin of the Amazon. 4. Describe the Llanos and Pampas of South America. 5. What are the principal vegetable products of Brazil? Describe their uses. 6. What are the principal products of Chili and Buenos Ayres? 7. Describe the seasons of tropical South America; compare them with those of Ontario. 8. Give some account of the aboriginal populations of South America; compare them with the aborigines of North America. Compare the native Indians of Patagonia with the Indians of (1) Ontario, (2) British Columbia, (3) the Arctic seaboard. 9. Compare the people of European descent in South America in respect of origin, character, and habits, with the people of European descent in (1) Ontario, (2) Canada, (3) the United States, (4) North America. 10. Give some account of the beasts and birds portrayed on page 90. 11. Compare the forests of Brazil with those of Canada and the United States. 12. Draw an outline map of South America; color the forest districts dark green, the grass districts light green, the mineral districts yellow, and the desert districts brown; in the appropriate places mark the names of the principal vegetable and other productions of the continent. 13. Describe the governments of the various states of South America; compare them with the governments of North America. 14. Describe the foreign trade of Brazil.

LESSON XXXVII.

THE EASTERN HEMISPHERE.

To the Teacher.—With a map of the world, or, better, with a large-sized globe, review Lesson XIII., and fix firmly in the minds of the pupils the general configuration and distribution of the land and water areas of the two hemispheres; also the shapes and relative positions of the five great continents, Australasia, and the five great oceans.

1. The Old World.—The Eastern Hemisphere is generally spoken of as the Old World, especially western and southern Asia, southern and western Europe, and northern Africa, since it was in these regions that modern civilization first began, and that the races that now dominate or rule the world had their early homes. Civilized races knew nothing of America until 1492, when Columbus discovered the West Indian Islands and claimed them for the King and Queen of Spain. From that time on, Europeans have poured into America, occupying it and claiming it for their own, until now it is almost all in the possession of Europeans or their descendants. America is thus spoken of as the New World, since when discovered it was "new" to the civilized occupants of the Old World.

LESSON XXXVIII.

EUROPE.

1. Position, Size, Population, and Boundaries.—Europe is a peninsula, in the north-west of the land area of the Eastern Hemisphere, jutting out from Asia. It is the smallest of the five great continents, containing only, in round numbers, 3,825,000 square miles, and thus is not much larger than the United States, or Canada, or Brazil. Its length from Cape St. Vincent to Ekaterinburg is 3,293 miles. Its population is about 325,000,000.

To the Teacher.—Teach the boundaries from the map.

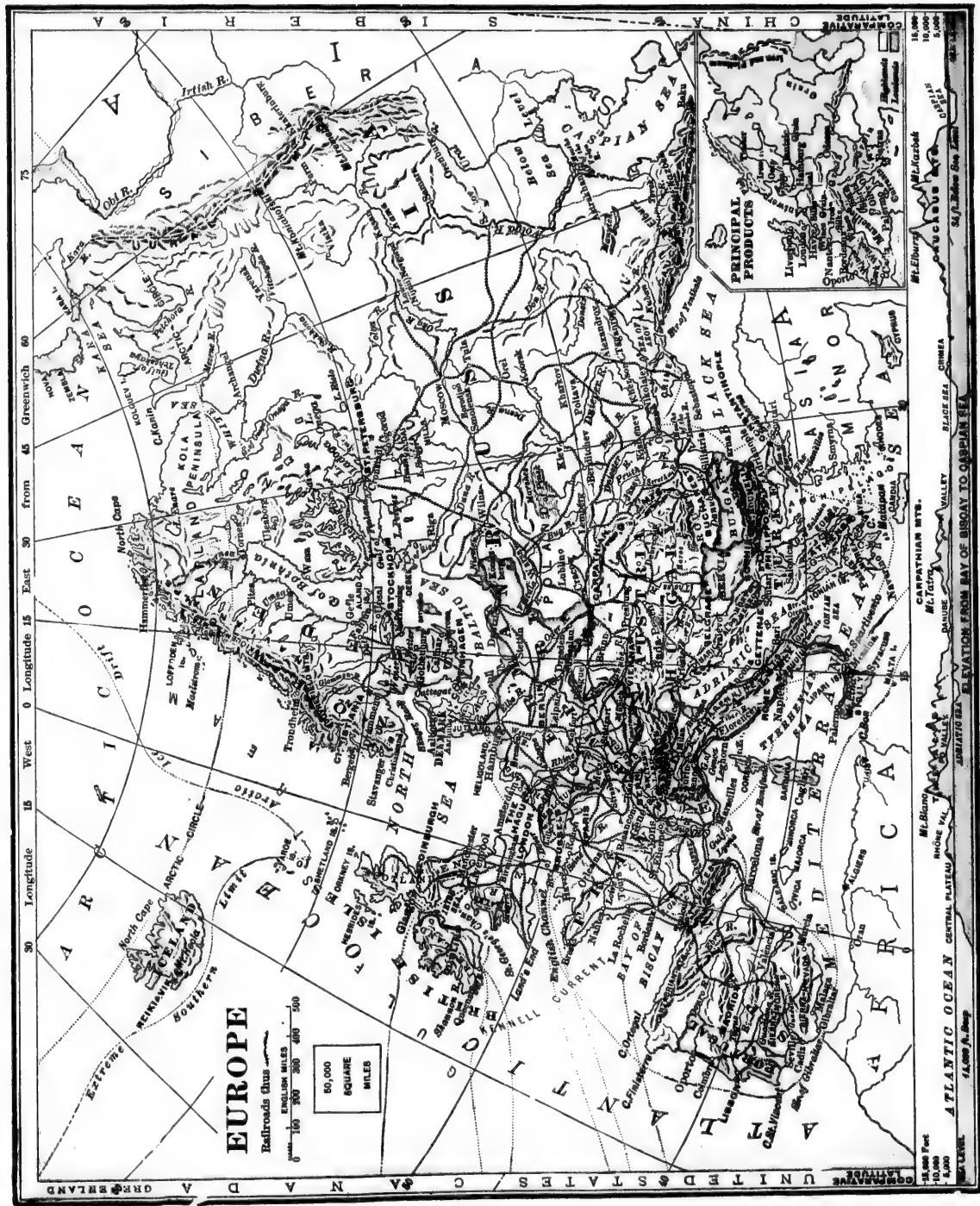
2. Political Subdivisions.—Europe is divided into a large number of independent states, but some of these are very small, and others, again, have entered into federations with one another for mutual advantage. The principal states are:—Russia (in Europe), Germany (made up of Prussia, Bavaria, Saxony, Württemberg, and several other states), Austria-Hungary (made up of Austria and Hungary), France, Great Britain and

Ireland, and Italy. These are called the Six Great Powers of Europe. Of the remaining states the most important are:—Spain, Sweden and Norway, Belgium, Roumania, Turkey (in Europe), Portugal, the Netherlands or Holland, Bulgaria and Eastern Roumelia, Switzerland, Denmark, Greece, and Servia. In addition there are several very small independent states.

To the Teacher.—Teach the boundaries and relative positions of the principal states of Europe thoroughly from the map.—The arrangement of the states as given above is in the order of their respective populations, and indicates in some degree their relative importance; but not entirely so, for Russia's influence, for example, is not at all commensurate with her population; and Roumania, and Bulgaria especially, being newly constituted states, enjoy as yet only a quasi-independence. On the other hand, Great Britain from the magnitude of her Indian and Colonial Empire, holds one of the very first positions in the world.—The populations and areas are given on subsequent pages; they should be made the subjects of comparative study.

3. Physical Features.

To the Teacher.—The configuration of the continent, which is somewhat intricate, should be impressed upon the pupils by a close study of the map. The great length and irregularity of the coast-line is the most conspicuous feature; and it is of great importance,—for this, added to the fact that navigable rivers are numerous and general, has made the Europeans a colonizing and trading people. The names of the seas, bays, and gulfs that indent the coast should be learned in order from the map.—In structure the continent consists mainly of (1) a plateau region at the south from which rise numerous irregular, but, in the main, connected mountain ranges; and (2) to the north of this plateau region a great lowland plain, bordered to the north-west and north-east by mountains. The Southern Plateau Region includes Spain and Portugal, south-eastern France, Italy, Switzerland, southern Germany, Austria (excluding Hungary), Turkey, and Greece. The Alps are the central ridges of the mountain ranges that traverse this plateau, Mont Blanc (15,781 feet) being the highest peak. The remaining ranges of the plateau for the most part radiate from, and are connected with, the central Alpine heights: to the north and east, the Black Forest of southern Germany, the Bohemian Mountains, and the Carpathians; to the south and east, the Dinaric Alps and the Balkans; to the south, the Apennines, forming the back-bone of Italy; and to the west, the Jura range and the Cevennes, these latter joining the Pyrenees, with which the remaining ranges of the Spanish peninsula are parallel. The Caucasus are an outlying range of this system.—Flanked on its southern border by the plateau region just described, and extending the whole length of the continent from Asia to the Bay of Biscay, is the Great Lowland Plain, comprising Russia, eastern Sweden, northern Germany, Denmark, Holland, Belgium, northern and western France, and the south-eastern parts of England, Scotland, and Ireland—the Baltic with its adjacent waters and the North Sea being merely submerged parts of the plain. The Dovrefield Mountains of Norway and the Highlands of Scotland border the plain on the north-west, and the Ural Mountains on the north-east. This great plain, though for the most part low, and in two districts below the level of the ocean (viz., the regions adjacent to the Caspian Sea, and a great part of Holland), is, however, not monotonously flat, but rather gently undulating. The Valdai Hills in Russia are its only considerable elevation.—Within the plateau region, between the Carpathian Mountains on the one hand, and the Dinaric Alps and the Balkans on the other, is another great plain, divided, however, into two parts known as the Plain of Hungary and the Wallachian Plain, constituting the Valley of the Danube. (These plateau and lowland regions are distinguished in color on the little map in the lower left-hand corner of the map of Europe, page 94.)—The rivers of the plateau region, with the exception of the Rhone, are for the most part short and rapid, and of little use for navigation. In the Great Lowland Plain the rivers, though not of such great size as those of the American continents, are proportionately more numerous, and the larger ones are all navigable for light craft.



Canada Publishing Co. Toronto

districts farther south, the vine is extensively cultivated, and with a success perhaps greater than elsewhere in the world; one variety, found in Greece, supplies our currants, and from other varieties, found in Spain and Portugal, our raisins are obtained. All the European coasts of the Mediterranean produce in abundance most of the fruits which we are accustomed to associate with a warm climate—the orange, the lemon, the citron, the pomegranate, the almond, the fig, the date, and the olive, of these the date is only of limited range, but the production of olive oil in Spain, Italy, and Greece is enormous. The sugarcane, however, is but little cultivated; cotton is grown only in Turkey and Greece, and even there not extensively; and rice is remunerative only in the valley of the Po and in some other Italian districts. Tobacco is grown extensively in all central and southern Europe; and some vegetable products receive an attention unknown in America: for example, the beet-root, in Germany and France, cultivated for its yield of sugar; the flax plant, in Ireland, Belgium and Prussia, valued both for its fibre and for its seed (from the latter the linseed oil of commerce, and oil-cake, used as food for cattle, are obtained); the hemp plant, in all eastern Europe from the White Sea to the Mediterranean, valued also for its fibre and for the oil expressed from its seed; the hop plant, in England, Belgium, Germany, and Austria; the chestnut, of very common consumption as food in Italy, France, and Austria; and the acorn, used as food in Sardinia.

6. Animal Life.—The animal life of Europe is very similar to that of the various parts of North America corresponding in climate. As on our own continent, so much more so in Europe, has the soil been so largely subdued to man's uses that wild animals, at least such as are formidable, are not numerous in species or plentiful in numbers. Of the animals which have been domesticated by man, almost all kinds (including even the camel—in southern Russia, Turkey, and Spain) are found abundantly in Europe. Birds are very numerous,—not only most of those with which we are familiar in Canada, but very many others—birds of prey, aquatic birds, and songsters. In beauty and flexibility of voice European song-birds surpass those of all other continents. Reptiles, at least such as are offensive to man, are not exceedingly numerous. As to fish, European seas and



1. ERMINE. 2. SABLE. 3. SNOW OWL. 4. REINDEER. 5. BARN OWL. 6. ELK. 7. WOLF. 8. FOX. 9. BROWN BEAR. 10. IBEX. 11. CHAMOIS. 12. WILD BOAR. 13. LÄMMER-OIEHER.

To the Teacher.—The Sable, a species of Marten, is found in Europe only in north-eastern Russia, though the common Marten is of very general distribution throughout all northern Europe.

rivers teem with them,—not only most of those species which are found in our own waters, but many others also.

To the Teacher.—Of the larger and more formidable European animals the principal are: the white bear, found on the Arctic coasts; the brown bear, found in the Pyrenees, the Carpathians, the Dovrefield Mountains, and occasionally in the Alps; the grey wolf and the black wolf, once numerous all over Europe, now confined to the wilder parts of the east and south, but still numerous; the jackal, found in Russia, Turkey, and Greece; the common fox, of almost universal distribution; the blue fox, found only in the Arctic regions; the lynx, found only in mountainous districts and in the north; and the wild boar, found in all southern uninhabited districts. Smaller and less formidable animals, many of them exceedingly numerous and of general distribution, are the hedgehog, the badger, the glutton, the mole, the weasel, the civet, the lemming (remarkable for its strange periodical migrations), the jerboa, the rat, the mouse, the marmot (or European woodchuck), the porcupine, the hare, and the squirrel. Harmless animals, which, however, are pursued by man, are the elk, found in Scandinavia, Russia, and Poland (south-western Russia); the aurochs, urus, or wild ox (from which it is said our domestic ox is descended), found only in Poland; the musmon, or wild sheep, found in Spain, Sardinia, and Corsica; the antelope, found in the countries north of the Black Sea; the ibex, found in the Alps and Carpathians; the chamois (from which the useful chamois or "shammy" skin is obtained), quite common in all Alpine regions; the fallow deer, found wild in Spain; and the red deer and roebuck, found in the Highlands of Scotland, Spain, and Germany. Fur-bearing animals, like the ermine or the marten, exist only in the north; and the beaver, once very abundant throughout almost all the continent, is rapidly disappearing before the advance of civilization, and is now found, and rarely, only in central Europe.—The walrus, found in our own Arctic waters, is also found on the Island of Spitzbergen. Seals, though becoming scarcer, are found on the shores of all European seas, including the Baltic and the Caspian. Whales and porpoises (though not so frequent as formerly) are found in northern and western waters; and dolphins and porpoises are to be seen in all the seas.—Two animals may be especially mentioned—the Italian shrew, a little burrowing, insect-eating creature, the smallest quadruped in the world; and the Gibraltar monkey, the only species of the monkey tribe found in Europe.

In the number and variety of its birds Europe is surpassed only by tropical America. The north of Europe abounds in aquatic birds, as storks, herons, plovers, curlews, geese, ducks, and swans,—some of these of almost infinite

variety; in the south are found the pelican, the spoon-bill, and the flamingo—the last remarkable for its bright red color. Birds of prey are numerous, but especially so in the mountain regions; of these the more noted are the bearded vulture, l  mmer-geler, or bearded griffin, found in the Alps and the Caucasus,—the largest of European birds, and so bold and rapacious that it has been known to carry off children; the king vulture; the golden eagle, found in the Alps, the Pyrenees, and the Grampians of Scotland,—a bird of prey as bold and rapacious as the l  mmer-geler; the imperial eagle; the great horned-owl; the hawk; the buzzard; the falcon; and the kite. Of smaller birds, especially noted for their song, and characteristic of Europe, are the nightingale, the robin, the goldfinch, the linnet, the skylark, and the thrush. Birds of the cock kind (those related to our common hen)—partridges, grouse, and pheasants—are abundant in all central Europe, and are much prized as game. Other birds well known to us, such as the sparrow, the swallow, the blackbird, and the crow, are equally common in Europe.

Of sea fish, nearly all the economic kinds familiar to our tables, and many others, abound in the waters of western Europe, and are a source of enormous wealth to England, Scotland, Norway, Holland, and France. The cod and the herring, especially, are abundant in the North Sea; the pilchard in the English Channel; the sprat in the Baltic; the sardine on the northern coasts of France, and in the Baltic and the Mediterranean; and the tunny and anchovy in the Mediterranean. Mullet and eels constitute a valuable fishery in the Adriatic. Of other sea animals, the oyster is abundant on all the Atlantic coasts, and its artificial culture receives great attention in France and England; sponges are obtained plentifully in the   gean Archipelago; and corals off the coasts of Sardinia and Corsica. Of river fish, the most important is the salmon, "noblest of all fish," an abundant source of wealth in Scotland and Norway; while in south-eastern Russia the rivers supply enormous numbers of sturgeon and perch.—Reptiles are not numerous or formidable; the common ones are the turtle of the Mediterranean; the chameleon of Spain; the lizard, found generally throughout the continent; salamanders, newts, frogs, and toads; of poisonous snakes, the adder, found generally in central Europe; and of non-poisonous snakes, several species, the largest of which, however, is never more than five feet.—Of insects, the most troublesome to man are the mosquito and the tarantula; locusts are sometimes so numerous as to become a terrible plague, especially in Turkey; vineyards are subject to the ravages of the phylloxera, and are sometimes ruined thereby; and our own potato-beetle is occasionally a very unwelcome visitor to European fields and gardens. Of useful insects, those of most importance are the silk-moth, very attentively cultivated, and a source of great revenue in all southern Europe; the honey-bee, equally prized in Italy, Greece, and all central Europe; the cantharis, or Spanish-fly, a sort of beetle, used in medicine for raising blisters, found principally in Spain, but also in other southern countries; and the cochineal insect, not long since introduced into Spain from Mexico, and now of great commercial value.



BRANCH OF MULBERRY TREE, SILK-WORM, COOON, AND MOTH.

a sufficient supply of these it must import largely from other continents.

To the Teacher.—Great Britain, Germany, and Austria-Hungary are all very richly endowed with deposits of the several most useful minerals and metals; Belgium owes a large share of its prosperity to its rich coal-fields; and Sweden, to the abundance of its well-known iron-ore; Spain and Turkey, though rich in mineral store, have left their mines unworked; Greece produces some silver; Roumania possesses very valuable deposits of salt and petroleum; and south-eastern Russia, of petroleum and saltpetre, which are now being turned to account.—Platinum is found only in Pann, in eastern Russia. Gold and silver are somewhat widely diffused, but the supply is not equal to the demands of the coinage and of the arts. Of iron, Great Britain produces more than all other European countries combined (its product, indeed, is two-fifths of the iron product of the world), Germany, France, Belgium, Austria, and Sweden being next in order. Of coal, too, Great Britain produces more than all other European countries combined, and Britain's product is one-half the total product of the world; but it is also abundant in Germany, France, Belgium, and Russia (in the last named country but little worked, however). Lead is most abundant in Spain, Belgium, and Germany; it is also found in England and elsewhere. Copper is exported from Sweden and Norway, but it is largely produced by Britain (especially Cornwall), Germany, Belgium, and Hungary. Tin is found scarcely anywhere but in England (in Cornwall) and in Austria, but in these places abundantly. Mercury is confined to Spain and Hungary. Salt is mined in Galicia (in the Carpathians), and in England (Cheshire); and it is manufactured from sea-water in France, Spain, and Russia; and from the salt lakes of Bessarabia (south-western Russia) enormous quantities are every year produced. Sulphur mining is a very important industry in Italy and Sicily; and asphalt, of which pavements and roofing cements are made, is a valuable product in Switzerland, Italy, and the Tyrol (in Austria).

8. People and Languages.—Europeans are of very many different original races; but the races are now not at all distinct; inter-marriages and social and commercial intercourse during many centuries, have brought it about that, with the possible exceptions of the Jews and Gypsies, there are no pure races remaining. But though race distinctions have become much confused, the languages spoken by Europeans are, many of them, very unlike one another in character, and altogether there are no less than sixty distinct languages spoken, besides very many dialects. However, of these languages the English, French, German, Russian, Italian, and Spanish, are the strongest and most progressive (the English, owing to its prevalent use in North America, India, Australia, and South Africa, the most progressive of all); but the Dutch (or the language of Holland), the Scandinavian (or the languages of Sweden and Norway), the Bohemian, Hungarian, Servian, and Greek, are at present holding their own.

To the Teacher.—There are four divisions in which most of the various peoples or races may be classified:—(1) The Gr  co-Latin, or southern races; (2) the Celtic, or central races; (3) the Teutonic, or northern races; and (4) the Slavonic, or north-eastern races. To the first division, or the Gr  co-Latin races, belong the Greeks, Italians, Spaniards, Portuguese, French, and Roumanians. To the second division, or the Celtic races, belong the Irish, the Gaels or Highlanders of Scotland, the Welsh, the Manx or people of the Isle of Man, the Cornish or people of Cornwall, and the Bretons or people of Brittany in France. To the third division, or Teutonic races, belong the

7. Minerals.—Europe is rich in mineral wealth, especially in iron, lead, copper, coal, and salt; but not especially so in the precious metals, silver and gold,—for

Icelanders, the Norwegians, the Swedes, the Danes, the Anglo-Saxons or English, the Flemings and Dutch or inhabitants of Holland, and the Germans (including about one-fourth of the people of Austria-Hungary). To the fourth division, or the Slavonic races, belong the Russians, the Bulgarians, the Servians, the Poles (in Austria and Germany), and the Bohemians and Croats (in Austria-Hungary). Not belonging to the four divisions thus outlined, are the Jews, scattered throughout all Europe in great numbers; the Magyars of Hungary; the Finns of north-western Russia; the Lithuanians of Russian Poland; the Tartars of Turkey and south-eastern Russia; the Albanians and Turks of Turkey; and the Circassians of the Caucasus. The wandering Gypsies (who number three-fourths of a million) are also considered a distinct race; and in northern Spain are a people, the Basques, supposed to be the representatives of the very earliest inhabitants of Europe.

9. Occupations of the People and Industries.

—Europe has long been the centre of modern civilization, and its people are industrious and ingenious, and engage in every sort of useful employment. Agricultural, pastoral, and horticultural occupations, of course, occupy the great majority of the people; but fishing, navigation, and all the useful and ornamental arts, employ their due share. It must be said, however, that nowhere else in the world are there so many people whom birth and fortune have placed beyond the need of work; many of these lead useful lives; too many of them, however, do very little for the benefit of their fellow-men.

10. Facilities for Transportation.—On account of its peculiarly indented outline, no part of Europe, except eastern Russia, is situated far from the sea; hence, from time out of mind, Europeans have made large use of boats and ships as a means of transportation; the many navigable rivers which are everywhere found, even in the east, have also largely aided to establish and extend communication by water. Moreover, wherever they have been needed, canals have been built, either to improve river navigation, or to join together navigable waters naturally separated. And since the invention of the steam-locomotive, in 1825, the continent has become covered with a network of railways, so that now even in the most mountainous countries of Europe, as Switzerland, for example, railway transportation in every direction may be easily effected.

11. Governments.—Europe is not, like America, a continent lately acquired and occupied by civilized people. Europeans have gradually risen to their present condition from a state of savagery; and so their various governments, which, no doubt, were at first tyrannical, have improved as the people have become wiser and found out better methods of managing national affairs. Formerly, all the governments were absolute

monarchies, that is, governments in which a king or emperor ruled his subjects much as he chose. Now there are but two such governments left—Russia and Turkey. Most of the European nations are now constitutional monarchies, that is, their chief ruler, styled Emperor, or King, administers only such laws as have been agreed to by the representatives of all the people of the country. The United Kingdom of Great Britain and Ireland is the best example of such a government. Similar governments are possessed by Germany, Austria-Hungary, Italy, Norway and Sweden, Denmark, Holland, Belgium, Spain, Portugal, Greece, Roumania, and Servia, and also by many of the states that go to make up the German Empire. France and Switzerland are republics, and some of the smaller states also are republics.

12. Standing Armies.—European nations are conspicuous for the enormous magnitude of their standing armies, and for the immense sums of money which they spend for the maintenance of these. The number of men in Europe constantly kept ready for war is more than 4,000,000; and the total number kept enrolled for service is three times the whole population of Canada. Russia, Germany, Austria-Hungary, France, and Italy, maintain the largest armies. Great Britain, also, maintains a large army, but her principal reliance in time of war is placed upon her navy, which is the largest and most complete in the world. All the lesser powers maintain such armies as they can; and besides Great Britain, all the other maritime nations have navies also.

13. Religion.—Europeans are nearly all adherents of Christianity. The principal exceptions are (1) the Jews, of whom there are 4,500,000 scattered throughout Europe, but living principally in Russia, Austria, and Germany; and (2) the main population of the present kingdom of Turkey, and the Tartars and some other Asiatic races of Russia, in all about 6,500,000, who are Mohammedans. Of Christians, there are three main divisions:—(1) the Roman Catholics, who constitute about one-half of the whole population of the continent, and largely preponderate in all southern Europe, except in Greece and Turkey; (2) the members of the so-called Greek Church, the principal church in Russia, Greece, Roumania, Bulgaria, Servia, and eastern Austria, constituting nearly one-fourth of the whole population of the continent; and (3) Protestants, who also constitute

nearly one-fourth of the whole population, and preponderate in the north-western nations of Europe. The Roman Catholic Church is united in all its parts, and the Greek Church is divided only by nationalities; but Protestants are separated into numerous independent sects.

14. Education.—In Europe are situated the chief seats of human learning, and every branch of study is prosecuted further there than elsewhere, even in America; but while the rich have always had facilities for obtaining the very best education the world could give, it is only within a comparatively short time, not much more than a century, that anything has been done to make education cheap and accessible to the poor. However, now, especially in Switzerland, Germany, Norway and Sweden, Holland, Denmark, France, Belgium, Austria-Hungary, and Great Britain, primary education is liberally provided for by government; in Switzerland and France schools are free, and in all these countries, with the exception of France and Belgium, education is compulsory. Still, in all the southern countries of Europe, and in some of the northern countries, the education of the great masses of the people is in a very backward condition; especially is this so in Spain, Turkey, and Russia.

Exercise.—1. Compare the populations of North America, South America, and Europe. 2. Arrange the political subdivisions of Europe in (1) the order of their areas, (2) the order of their populations, (3) the order of their importance. 3. Of what consequence has its irregular shape been to the inhabitants of Europe? 4. Account for the warmth and equability of temperature of the climate of southern Europe. 5. Describe the vegetation of Europe, beginning with the north and ending with the south. 6. What are the resemblances and what the differences in the animal life of North America and of Europe? 7. Locate on the map the principal fisheries of Europe. 8. Give some account of the useful, and also of the destructive, insects of Europe and of North America. 9. Locate on the map the principal coal, iron, salt, and petroleum districts of Europe. 10. Compare the people of Europe and North America as regards (1) races, (2) languages. 11. Compare Europeans, North Americans, and South Americans, in respect of their occupations and principal industries. 12. Compare Europe and North America in respect of (1) their facilities for transportation; (2) their governments; (3) their principal religions. 13. Compare European nations, the United States, and Canada, in regard to their standing armies. Why should such large standing armies be kept up in Europe? What effect has the maintenance of them upon the happiness of the people? 14. Give some reasons why European nations are so backward in the matter of public education.

LESSON XXXIX.

THE BRITISH EMPIRE.

1. Extent and Population.—The British Empire, formally entitled "The United Kingdom of Great Britain and Ireland," comprises a large number of possessions in all parts of the world. In extent and number of people it exceeds all other empires or dominions. Its area is, in round numbers, 8,836,000 square miles; a portion of this, however (the northern parts of the Dominion of Canada and the middle of Australia), is inhospitable to man and barren. Its total population is probably nearly 315,000,000, or not far short of one-fourth of the entire population of the globe. The British Islands, *i.e.*, Great Britain (made up of England, Wales, and Scotland) and Ireland, are the chief seat of empire and the ancient homes of the people whose energy and intelligence have thus gained for them so commanding an influence in the world; but in extent and population these "mother countries" are far exceeded by their dependencies.

To the Teacher.—The extent and population of the British Empire are as follows:—

1. POSSESSIONS IN EUROPE.—(1) Great Britain and Ireland: area, 121,184 square miles; population, 35,000,000. (2) The Channel Islands (Jersey, Guernsey, Alderney, Sark, and Herm): area, 73 square miles; population, 89,000. (3) The Isle of Man: area, 282 square miles; population, 55,000. (4) Heligoland: area, 1 square mile; population, 2,000. (5) Gibraltar: area, 2 square miles; population, 25,000. (6) Malta: area, 117 square miles; population, 162,000.

2. POSSESSIONS IN ASIA AND ASIATIC WATERS.—(1) The British Empire in India (including the Nicobar and Andaman Islands): area, 1,518,044 square miles; population, 257,500,000. (2) Aden and the Island of Perim: area, 70 square miles; population, 36,000. (3) Socotra (in the Arabian Sea): area, 1,310 square miles; population 70. (4) Ceylon: area, 25,635 square miles; population, 2,800,000. (5) The Straits Settlements (including Singapore, Penang, Province Wellesley, and Malacca): area, 1,500 square miles; population, 500,000 (Connected with the Straits Settlements are three native Protected States, whose areas and populations are not herein included.) (6) Hong-Kong: area, 32 square miles; population, 161,000. (7) Labuan (off Borneo): area 30 square miles; population, 6,000. (8) British North Borneo (northern part of Borneo): area, 80,000 square miles; population, 150,000. (9) Port Hamilton (in the Corea Strait): area, 6 square miles; population, 2,000. (10) Cyprus (only protected by Great Britain): area, 3,584 square miles; population, 187,000.

3. POSSESSIONS IN AUSTRALASIA.—(1) Australia: area, 3,030,771 square miles; population, 2,550,000. (2) Tasmania: area, 26,215 square miles; population, 135,000. (3) New Zealand: area, 104,408 square miles; population, 620,000. (4) Papua, or New Guinea (British portion): area, 88,457 square miles; population, 137,500. (5) The Fiji Islands: area, 7,424 square miles; population, 128,000. (6) Norfolk Island: area, 15 square miles; population, 8,600.

4. POSSESSIONS IN AFRICA.—(1) Cape Colony: area, 213,636 square miles; population, 1,240,000 (but these figures do not include several recent annexations). (2) Natal: area, 18,750 square miles; population, 425,000. (3) The Islands of Mauritius and Rodrigues, and the Seychelles: area, 1,063 square miles; population, 385,000. (4) Sierra Leone: area, 600 square miles; population,



BRITISH HOUSES OF PARLIAMENT.

and people of British descent are as mere handfuls here and there.

3. Government.—All this vast empire is under the authority, more or less direct, of the people of England, Scotland, Ireland, and Wales. The head of the Government is the Queen, who is styled “Queen of the United Kingdom of Great Britain and Ireland, and Empress of India,” and all government is administered as if by her. But she is relieved of nearly all her duties by her Prime Minister, who acts in her place, and is held responsible by the people for all his acts done in her name. The Prime Minister is assisted by other ministers (the whole forming the Cabinet), who are also held responsible by the people. Laws are enacted by Parliament, which consists of (1) the House of Commons, or representatives of the people; and (2) the House of Lords, or representatives of the ancient nobility of the realm (but every law must receive the assent of the Queen); and it is the duty of the Premier and his colleagues to see that all the enactments of Parliament are duly carried out. This Parliament of Great Britain and Ireland is the supreme authority in the whole empire, but the relations of the different dependencies to it differ very widely. Some, like Canada and the colonies in Australia, make most of their own laws and

61,000. (5) The Gambia Settlements: area, 21 square miles; population, 15,000. (6) Gold Coast Colony: area, 16,620 square miles; population, 520,000. (7) Lagos (north of the Gulf of Guinea): area, 73 square miles; population, 75,000.

5. POSSESSIONS IN THE SOUTH ATLANTIC.—(1) Ascension: area, 35 square miles; population, 100 (?). (2) St. Helena: area, 47 square miles; population, 5,000. (3) Falkland Islands: area, 4,740 square miles; population, 1,550. (4) South Georgia: area, 1,570 square miles; uninhabited.

6. POSSESSIONS IN AMERICA.—(1) The Dominion of Canada: area, 3,470,392 square miles; population, 5,000,000. (2) Newfoundland, with Labrador: area (not including Labrador), 42,000 square miles; population, 185,000. (3) British West Indies: area, 13,750 square miles; population, 1,250,000. (4) Belize, or British Honduras: area, 7,562 square miles; population, 28,000. (5) British Guiana: area, 85,442 square miles; population, 252,000.

2. People.—Of the vast population of the British Empire but a comparatively small portion is of British race, and it is only in the British Islands themselves, in the settled parts of Canada (exclusive of Quebec), in the settled parts of Australasia, and in some of the minor dependencies, that the race—the Anglo-Saxon race as it is popularly called—preponderates in numbers. In nearly all the other parts of the empire, but especially in India (where the great mass of the population is) and in Africa, native races are very greatly in the majority,

institute their own governments, and are practically independent: the principal ties which bind them to the crown of Great Britain are love for their mother countries and loyalty to the Queen. Others, like India, have nearly all their laws made for them by Parliament, which also appoints their governments. Others, again, like many of the West India Islands, make no laws for themselves, and are governed by Parliament absolutely.

4. Influence Upon the Progress of Civilization.—Because of their great empire, but more by reason of their intelligence and their moral and religious character, the people of the British Islands must be considered one of the most influential for good (that is, for increasing and extending the blessings of civilization) in the whole world. Moreover, their language, the English language as it is called, seems destined to become much more widely spoken by civilized people than any other. In addition, the people of the United States are for the most part of the same race, their language is the English language, and their laws are modelled upon British laws, so that they form another great Anglo-Saxon community: thus these two great nations may be considered as constituting but one in the noble work of advancing civilization throughout the world.

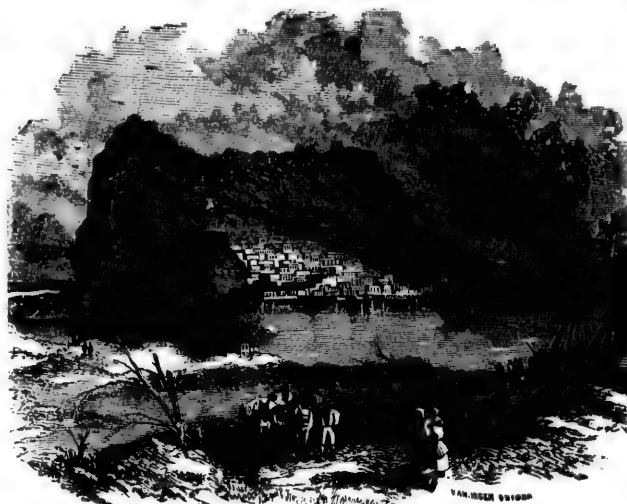
Exercise.—1. Point out upon a globe, or upon a map of the world, all the British Possessions. 2. Arrange the British Possessions in order of their respective areas. 3. Arrange the British Possessions in order of their respective populations. 4. What proportion of the total population of the British Empire does the population of Canada constitute? 5. What proportion of the total area of the British Empire does the area of Canada constitute? 6. By using a globe find out approximately how far from London, England, is (1) Montreal, Canada; (2) Calcutta, India; (3) Melbourne, Australia; (4) Capetown, Cape Colony; (5) Kingston, Jamaica; (6) Victoria, B.C., Canada.

LESSON XL.

THE BRITISH ISLANDS.

1. Position, Extent, and Population.—The British Islands are an archipelago off the north-west of the continent of Europe. They consist of two large islands and very many small islands,—said to be about 5,500 in all—but of these the greater number are little more than mere rocks. The larger of the two large islands is known as Great Britain, and the smaller as

Ireland. Great Britain consists of three countries—England, Scotland, and Wales. England has an area of 50,823 square miles; Wales, of 7,363 square miles; Scotland, of 30,463 square miles; and Ireland, of 32,535 square miles. The population of England in 1881 was 24,613,926; of Wales, 1,360,513; of Scotland, 3,735,573; and of Ireland, 5,174,836. The population of England, Scotland, and Wales is continually increasing; but the



GIBRALTAR.

population of Ireland is decreasing—it has decreased from 8,295,061 in 1845.

To the Teacher.—Teach the relative positions of the various countries comprised by the term British Islands from the map (the smaller islands, as a rule, are said to form part of the respective countries to which they are adjacent); also the names and relative positions of their containing waters.—The terms, Great Britain, and England, are often used in wider senses than those implied in their geographical definitions. “Great Britain,” and even “Britain,” is frequently intended to include Ireland; and “England” is frequently used so as to include all the British Islands; a more common use of the term “England” is that by which it is made to include Wales with England. Again, England and Wales, Scotland, and Ireland, are frequently spoken of separately as “Kingdoms,” and the whole British Islands as the “Three Kingdoms.”—The length of England from Portland Bill to Berwick is 368 miles; of Scotland, from the Mull of Galloway to Dunnet Head, 287 miles; of Ireland, from Mizen Head to Fair Head, 300 miles; of Great Britain, from Lizard Point to Dunnet Head, 608 miles.

2. Subdivisions.—England is divided into forty counties; Wales, into twelve counties; Scotland, into



thirty-three counties; and Ireland, into thirty-two counties. Ireland is also divided into four provinces—Ulster, Leinster, Munster, and Connaught.

To the Teacher.—The counties of the British Islands (in England and Scotland often called shires) play so important a part in history, and are so frequently referred to in literature and conversation, that their names and relative positions should be made very familiar to the pupils: whether more should be required of the pupils than to become able to point out quickly on the map any county when its name is given, should depend upon their age and mental development. As an aid to memory, and as a guide to recognition from the map, the following arrangement will be found of service:—

1. COUNTRIES OF ENGLAND. (1) *Six northern counties:* Northumberland, Cumberland; Durham, Westmoreland; York, Lancaster. (2) *Four eastern counties:* Lincoln, Norfolk, Suffolk, Essex. (3) *Four western counties:* Chester, Salop, Hereford, Monmouth. (4) *Ten north-midland counties:* Nottingham, Derby, Stafford; Rutland, Leicester; Cambridge, Huntingdon, Northampton, Warwick, Worcester. (5) *Ten south-midland counties:* Hertford, Bedford, Buckingham, Oxford, Gloucester; Middlesex, Surrey, Berks, Wilts, Somerset. (6) *Six southern counties:* Kent, Sussex, Hants, Dorset, Devon, Cornwall. (NOTE.—To many of these names is frequently added the general term "shire;" thus "Yorkshire," "Devonshire," etc. "Berkshire" and "Wiltshire" are perhaps as commonly used as "Berks" and "Wilts." Lancaster, Chester, Salop, and Hants, are frequently called "Lancashire," "Cheshire," "Shropshire," and "Hampshire" respectively. Buckingham is sometimes called "Bucks.")

2. COUNTRIES OF WALES. (1) *Six northern counties:* Flint, Denbigh, Carnarvon, Anglesey; Montgomery, Merioneth. (2) *Six southern counties:* Radnor, Cardigan; Brecknock, Carmarthen, Pembroke; Glamorgan.

3. COUNTRIES OF SCOTLAND. (1) *Eight Highland counties:* Orkney and Shetland, Caithness, Sutherland, Ross, Cromarty, Inverness, Argyll, Bute. (2) *Nine counties, in part Highland, in part Lowland:* Nairn, Elgin, Banff, Aberdeen, Kincardine, Forfar, Perth, Stirling, Dumbarton. (3) *Sixteen Lowland counties:* Fife, Kinross, Clackmannan; Haddington, Edinburgh, Linlithgow, Lanark, Renfrew, Ayr; Berwick, Selkirk, Peebles; Roxburgh, Dumfries, Kirkcudbright, Wigton. (NOTE.—Ross and Cromarty are often considered one county.—The distinction of counties into Highlands and Lowlands cannot be definitely made; for example, a large part of Caithness is Lowland; the above arrangement is sufficiently accurate, and will be serviceable.—Many parts of Scotland are popularly spoken of by ancient names no longer officially used: "Angus" denotes Forfar; "Clydesdale," part of Lanark; "Etrick Forest," Selkirk; "Galloway," Kirkcudbright and Wigton; "Gowrie," part of Perth and Forfar; "Lennox," Dumbarton; "Liddesdale," part of Roxburgh; "Lochaber," part of Inverness; "Lorn," part of Argyll; "East Lothian," Haddington; "Midlothian," Edinburgh; "West Lothian," Linlithgow; "Moray," Elgin; "Nithsdale," part of Dumfries; "Strathearn," part of Perth; "Strathmore," part of Perth and Forfar; "Teviotdale," part of Roxburgh; "Tweeddale," part of Peebles.)

4. COUNTRIES OF IRELAND. (1) *Nine counties of Ulster:* Antrim, Londonderry, Donegal; Tyrone; Down, Armagh, Monaghan, Fermanagh; Cavan. (2) *Twelve counties in Leinster:* Louth, Meath, Westmeath, Longford; Dublin, Kildare, King's County; Wicklow, Carlow, Queen's County; Wexford, Kilkenny. (3) *Six counties in Munster:* Tipperary, Limerick, Clare; Waterford, Cork, Kerry. (4) *Five counties in Connaught:* Leitrim, Sligo, Mayo; Roscommon, Galway.

3. Physical Features.

To the Teacher.—The British Islands should have more interest for Canadians, and especially for the people of Ontario, than any other portion of the globe outside of our own country; for they are our mother-land. There is scarcely a geographical name belonging to them that has not its importance from being associated with some great event in history, or with some noble or otherwise eminent character in biography, or with some romantic incident in poetry or fiction; or that has not become famous from its connection with commerce, or manufacture, or art. So that it should be the aim of the teacher to impart to his pupils a very clear and comprehensive knowledge of the physical features of these islands; but the minuteness of detail with which

these are presented should depend upon the age and mental capacities of the pupils. It is not important to know lists of names; but, if possible, the pupils should become familiar with the physical features of the islands to the extent that when a mountain, or river, or lake, or headland, or other feature is mentioned, or alluded to, its position on the map should instantly come to the mind without effort.—The Physical Features should be taught entirely from the map in a series of conversations. The following notes may be used:

The main features of the two larger islands are somewhat similar—on the west a mountainous district, constituting as it were a "backbone," running from north-east to south-west; and on the east and south a district generally lowland in its character, varied, however, by elevations. In the larger of the two islands irregular masses of mountains and mountainous land occupy most of the north and west of Scotland; a continuous group of these masses extending through the middle of the kingdom, from west to east, is called the Grampians. To the east and south of the Highlands, occupying the remainder of Scotland, is an irregularly shaped plain, called the Lowlands, in which, however, the Sidlaw Hills, the Ochil Hills, the Pentland Hills, the Lammermuir Hills, and the Lowther Hills, are considerable elevations; and these, and the Cheviot Hills, which form part of the boundary between the two kingdoms, continue the backbone into England. In England it is further continued by the mountains of Cumberland and Westmoreland, and by the Pennine Range as far as the Peak in Derbyshire. Here it turns to the west, and, spreading out, covers most of Wales as the Snowdon and Cambrian Mountains. In England, the continuation of the range is of much lower height, and is known as the Malvern Hills and the Cotswold Hills. Continuing still of low height, it turns again to the west under the name of the Mendip Hills, and, gradually declining, it terminates at last with Land's End in Cornwall. The principal elevations in this range are: Ben Wyvis (3,442 feet), in Cromarty; Ben Nevis (4,406 feet), in Inverness; Ben Lawers (3,984 feet), in Perth; Skiddaw (3,022 feet), Helvellyn (3,110 feet), and Scawfell (3,208 feet), in Cumberland; and Snowdon (3,571 feet), in Wales. In England, as compared with Scotland, there is a much greater proportion of lowland, and east of the range just described there are found only comparatively very low elevations; the most considerable of these are the Wolds, the Chiltern Hills, and the Downs.—In Ireland the western "backbone" is not continuous as it is in Great Britain: the detached masses are known as the Sperrin Mountains and the Donegal Mountains in the north; the mountains of Leitrim and Sligo in the north-west; Nephin Beg Mountains and the Connemara Hills in the west; and the mountains of Kerry in the south-west. Other ranges or detached masses are: the mountains of Antrim, the Mourne Mountains, the Wicklow Mountains, the Slieve Bloom Mountains, and the Knockmeleadow Mountains.—Apart from the mountainous districts outlined above, England is, in the centre and south, generally undulating in surface, but in the east it is for the most part merely a low plain; Scotland generally is hilly, but it has several large level plains or "straths," of which the most considerable are Strathearn and Strathmore; and Ireland is, in the north and south, generally hilly, but its whole central portion is occupied by a low undulating plain stretching from shore to shore.

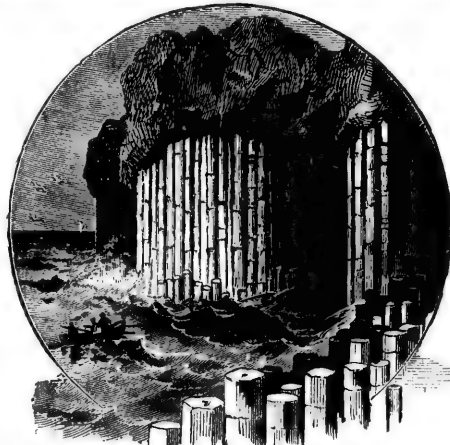
The outline of the islands, especially of Scotland or North Britain, is very irregular, but much more so in the west than elsewhere. Hence the coasts are characterized by the possession of very many bays, both large and small, and many excellent harbours for ships (these, of course, being fewer on the east); Ireland, in especial, is favored with good harbors. The estuaries, also, of the larger rivers usually afford good harbors even for ships of the greatest size. On the east of Scotland the indentations of the sea are usually called "firths"; in the west of Scotland many of them are called "lochs"—a name given also to the fresh-water lakes of Scotland. Similarly, in the north-west of Ireland the indentations of the sea are sometimes called "loughs," a name which is given also to most of the fresh-water lakes of Ireland. The names of the principal bays, estuaries, firths, lochs, loughs, and harbors that indent the shores should be taught from the map; also the names of the principal channels, straits, sounds, etc., that separate the various islands of the British Islands from one another.

Owing to the prevalent moistness of the atmosphere, and the favorable configuration of the mountain ranges, the British Islands are drained by numerous rivers, and many of these are suitable for navigation. The general use of railways has of late lessened the commercial importance of these rivers, but they were formerly of great service in effecting communication and



transportation. Nearly all the larger rivers, the Thames, the Severn, the Mersey, the Humber, the Clyde, the Forth, the Foyle, the Shannon, reach the sea by long and deep estuaries, which adds much to their commercial importance, since these afford convenient meeting-places for the necessary transfers of external and internal traffic. In Great Britain most of the rivers flow outwards from the main mountain range towards the east or south; but the Severn and the Clyde traverse breaks in this mountain chain, and flow westward. The rivers of England are connected into one system by a network of canals; in Scotland, the Forth and the Clyde are also joined by a canal, and so are Moray Firth and Loch Linnhe (by the Caledonian Canal), communication thus being established from sea to sea; so, too, in Ireland, Dublin Bay on the east is connected (by the Grand Canal and the Royal Canal) with the Shannon on the west, and Belfast Lough is connected with Lough Neagh and Lough Erne; but since the introduction of railways both canals and rivers are now but little used except as a cheap though slow means of transporting heavy merchandise. The names of the principal rivers should be taught from the map in order.

Lakes are not numerous in England and Wales; the only notable ones are Windermere (by far the largest, and only 8 square miles in area), Ulleswater, and Derwentwater, in the so-called "lake region" of Cumberland and West-



FINGAL'S CAVE, ISLE OF STAFFA.

moreland; but these, though very small, are much celebrated for their beauty, being surrounded by the grandest mountain scenery in England.—Scotland has a very great number of lakes; many of these are also much famed for the beauty and grandeur of their surrounding scenery, being situated for the most part in deep glens amid lofty mountains. But few are in the Lowlands: of these St. Mary's, in Selkirk, and Loch Leven, in Kinross, are the most celebrated. In the Highlands, among the more noted lakes, are Loch Lomond—the largest lake in Great Britain—24 miles long, near Ben Lomond; Loch Katrine, in the Trossachs—the latter a tract thought to surpass in loveliness and variety of scenery every other district in the British Islands; Loch Awe, near Ben Cruachan, in Argyleshire; and Loch Tay, near Ben Lawers, in Perthshire. Between Moray Firth and Loch Linnhe is a remarkable valley, long and deep, called Glenmore, in which a number of lochs, the principal being Loch Ness, have been joined together into one navigable system known as the Caledonian Canal.—While in England the lakes are but few, and in both England and Scotland are found principally among mountains, in Ireland they are exceedingly numerous and are found everywhere. The largest is Lough Neagh (153 square miles), and it is the largest lake in the British Islands. Other large lakes are Lough Erne, Lough Allen, Lough Ree, Lough Derg, Lough Conn, Lough Mask, and Lough Corrib. The Lakes of Killarney, in Kerry, though very small, are much celebrated for their picturesque beauty—from their western side rise steeply from the water's edge McGillicuddy's Reeks, the highest mountains in Ireland.

Of the numerous islands of the British archipelago but comparatively few belong to England and Wales, and these lie so close to the mainland as almost to form part of it, and many indeed are islands only at high tide. The Isle of Wight, Anglesey, Holyhead, and Sheppey, are the principal islands; smaller islands are Holy Island, Eddystone, the Scilly Islands, and Lundy Island. (The Isle of Man, though geographically an island of the archipelago, is considered politically as a dependency rather than a part of the British Islands).—In Scotland, on the east side the islands are few and very small; on the north and west they are numerous and important. These latter fall naturally into four groups:—(1) the Shetland Islands, of which the principal are Mainland, Yell, Unst, and Fetlar; (2) the Orkney Islands, of which the principal are Pomona or Mainland, Sanda, Westra, and Stronsa; (3) the Western Islands or Outer Hebrides, of which the principal are Lewis and Harris, North Uist, Benbecula, and South Uist—these are so nearly connected that they almost form one body, and so are sometimes called the Long Island; (4) the Inner Hebrides, of which the principal are Skye, Rum, Coll, Tiree, Mull, Staffa, Iona, Colonsay, Jura, and Islay; and (5) the islands of the Firth of Clyde, of which the principal are Bute, Arran, Cumbray, and Ailsa Craig. The islands of Scotland make up an area of 4,070 square miles.—Around Ireland, likewise, islands are almost wanting on the eastern side; on the western side they are very numerous, but they are small and conform so closely to the winding of the coast-line that they almost form a part of it. The principal islands are, Rathlin, Tory, Neish Aran, the Mullet, Achil, Clare, the islands of Aran, Valentia (from which the Atlantic telegraph cable proceeds), Dursey, Cape Clear, Spike, Ireland's Eye, and Lambay.

A very long and much indented coast-line gives rise to an immense number of capes, heads, points, forelands, and so on. The principal are:—In England and Wales, Flamborough Head, Spurn Head, the Naze, North Foreland, South Foreland, Beachy Head, St. Catherine's Point, Portland Bill, Start Point, the Lizard, Land's End, St. David's Head, Holy Head, Great Orme's Head, Formby Point, and St. Bee's Head.—In Scotland, Duncansby Head, Tarbet Ness, Kinnaird Head, Fife Ness, St. Abb's Head, Mull of Galloway, Corsill Point, Mull of Cantire, Mull of Oe, Butt of Lewis, Cape Wrath, and Dunnet Head.—In Ireland, Fair Head, Hill of Howth, Wicklow Head, Carnmore Point, Kinsale Head, Cape Clear, Mizen Head, Dunmore Head, Slyne Head, Achil Head, Erris Head, Bloody Foreland, and Malin Head.

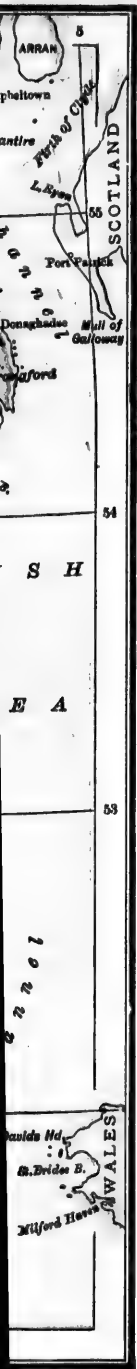
4. Climate and Soil.—The British Islands enjoy a climate very much milder and much more equable than that of corresponding parts of Canada in the same latitude, and much milder, indeed, than that of corresponding parts of the continent of Europe in the same latitude; and hence the difference between the average temperatures of the northern and southern parts of the islands is not nearly so great as from their distance apart might be supposed. This is owing to the presence of a surrounding body of water (for water everywhere preserves a more equable temperature than land), and to the influence of the warm south-west currents and winds of the Atlantic—in particular the Gulf Stream. Ireland is milder and more equable in temperature than Great Britain, and, as a rule, has more rain; but, in comparison with Great Britain, the rainfall is more equally spread over the whole island, although in places, in the west and south, it is excessive. Similarly, the western parts of England and Scotland are milder and more equable than the eastern parts, which are cold in winter and dry in summer; but while the rainfall is considerable in all the west, and excessive in some parts—particularly

ENGLISH MILES

0 5 10 20 30 40 50

Battlefields x





the north-west of Wales and the north-west of Scotland—in the eastern part of the island it is comparatively slight. The east, moreover, is exposed to cold winds, that come down across the North Sea, and much retard vegetation, especially in spring. The south-west of England enjoys the finest climate in Britain, and hence is much resorted to by invalids.—Although there are some very rich agricultural areas, yet, on the whole, the soil of the British Islands cannot be said to be very fertile; but owing to the general humidity of the atmosphere, the prevalence of rain, the equability of the climate, and the thoroughness and skill with which the ground is tilled, especially in England and Scotland, the natural deficiencies of the soil are not manifested by deficient crops,—on the other hand, nowhere does the husbandman reap a richer reward for his toil. In England and Wales eight-ninths of the soil is capable of cultivation, but three-fifths of this is fit only for pasturage. In Scotland only one-fourth of the soil can be cultivated, and one-half of this must be given to pasturage. The proportion of poor land in Ireland is very much less than in Britain, and altogether Ireland possesses but little soil that could not be reclaimed either for pasture or for tillage, and much of the soil is very fertile; but the excess of moisture and rain, especially in the west and south, is detrimental to grain crops, and even to green crops; and, moreover, agriculture is neither so well understood there, nor so well practised, as in either England or Scotland.

To the Teacher.—In England, outside of the mountain districts and hill districts previously described, a great portion of the land is comparatively low, especially in the east—gently undulating for the most part, but in places spreading out into plains, as in the Great Yorkshire Plain, which embraces a large part of Yorkshire, and the Fen District, which comprises a large portion of the several counties adjoining the Wash. It is this lowland district which is the fertile part of England, its river valleys being the most fertile. The Yorkshire Plain, however, is bleak and in great part barren, though even its river valleys comprise some of the richest tracts in England; and the Fen District is naturally marshy or fenny, having no natural drainage, as it is almost on a level with the sea, and so is saturated with water and in its natural state quite unfit for cultivation; but artificial drainage, aided by steam-power, has now reclaimed most of it and converted it into a fertile area. The higher districts, comprising the “hills” and “downs” already mentioned, besides many “moors” and “plains,” as Dartmoor in Devon, and Salisbury Plain in Wilts—are not arable, but a great portion of their soil is good for pasturage. And, on the whole, as the western part of the island is higher than the eastern part, a line drawn from the mouth of the Tyne in the north to the mouth of the Stour in the south, will divide England with fair accuracy into two parts, the one pastoral, the other agricultural, the “grazing counties” to the west, and the “corn counties” to the east,—though, of course, the highlands in the east must be considered pastoral.—In Scotland not all, even of the Lowlands, is fit for cultivation by the plough: Dumfries and Ayr, Lanark and Renfrew, and Fife, and some other parts of the Lowland district, contain fertile areas suitable for tillage; but the “dales,” of which many are so famous—high valleys found among the Lowland mountains—though well suited for pasturage,

are not strictly agricultural districts. The Lothians and Berwick, however, are arable and fertile, and it is in these counties of Scotland that agriculture is most successfully pursued. In the Highlands the soil is, as a rule, either quite unfit for cultivation, or of only inferior value as pasturage.—In Ireland one-seventh of the country is bog-land; the “bogs,” however, are not marshes; they lie above the level of the sea and are easily drained. The districts comprised within the two lines which may be drawn—the one from the Hill of Howth to Sligo Bay, the other from Wicklow Head to Galway Bay—is largely covered with flat “red bog”; besides, in mountain districts there is, when taken altogether, an almost equal area of “black bog.” The bog, both black and red, consists mainly of decayed wood, moss, and other vegetable matter, and can be cut out, dried, and then burned as fuel; and indeed “peat,” as this dried bog is called, furnishes the people of Ireland with the most of the fuel which they use. Nearly all bog-land can be reclaimed—flat red bog for tillage, mountain bog for pasturage. As a whole, in natural fertility of soil, Ireland is much superior to Britain—the “Golden Vein,” in Munster, between Cashel and Limerick, is one of the richest districts in the United Kingdom.

5. Vegetation.—The vegetation of the British Islands greatly resembles that of Ontario. The larger islands were once well covered with wood, but much of this has now been cleared away. In England, more woodland remains than elsewhere, principally in well protected “forests” in Hampshire and the central counties. In Scotland, the Lowlands are in general well cleared; but in the Highlands extensive forests of Scotch fir remain. In Ireland, nearly all the forests have been destroyed, and wood is comparatively scarce.—Agricultural crops are much the same as those with which we are familiar in Canada. Wheat is the staple cereal and the principal crop in England, and oats in Scotland. Oats are the staple cereal in Ireland also, but potatoes are the principal crop there. Grass for pasture and for hay is more extensively grown than any other product in western England, in the more elevated districts of the Lowlands and in the Highlands in Scotland, and largely throughout Ireland—in England for the food of both cattle and sheep, in Scotland for sheep principally, and in Ireland for cattle principally.—The British Islands are not distinctively fruit-producing countries, but apples, pears, plums, cherries, quinces, and such small fruits as gooseberries, currants, and blackberries, thrive well and are cultivated with great success in the lower and warmer parts of England and Scotland, especially in southern and south-western England.—For the supply of the vast populations of the manufacturing cities and towns of England and Scotland, immense quantities of garden vegetables are raised, especially in the counties about London, and in all the southern and eastern counties of Great Britain generally.

To the Teacher.—The trees most common in the British Islands are the oak, the birch, the alder, the hazelnut, the aspen, the dwarf-willow, the yew, the blackthorn, the ash, and the holly. Besides these, which are of general

distribution, in Scotland are found abundantly the fir, the mountain ash, and the poplar; and in southern England, the elm, the maple, the beech, the chestnut, and the parasitic mistletoe.—Agriculture and horticulture are nowhere better understood, or more scientifically and successfully prosecuted, than in eastern and southern England and the Lowlands (especially the Lothians) of Scotland. Artificial and imported manures, artificial drainage, machinery for ploughing and tilling the land, for reaping and storing the crops, and for preparing food for stock, the rotating of crops, and other aids to good husbandry, are everywhere made use of; but of late years it has seemed most profitable to give more attention to the raising of cattle and sheep, the making of butter and cheese, fruit-farming and market-gardening, than to growing grain, since grain can be so easily and cheaply imported from other countries. After wheat and oats, barley is the grain crop next in importance. Wheat is the tenderest of the grain crops, and is grown principally in the southern counties of England and the warmer Lowlands of Scotland; oats are the hardiest crop, and can be grown anywhere, even in the far north. Turnips constitute an important crop in east England and in the district south of the Forth in Scotland; and potatoes in all the Scottish Lowlands. The valleys of the Severn, Ouse, and Cam in England, and of the Clyde, Ayr, and Doon in Scotland, are the chief dairy districts of Britain. Somerset, Devon, and Hereford are the apple-orchard counties; besides fruit, they produce also immense quantities of cider. Hops are a principal crop in Kent, Surrey, and Worcester.—In Ireland, flax is an important and valuable crop—principally in Ulster, the flax grown there being of superior quality.

6. Animal Life.—The animal life of Great Britain and Ireland in all its essential features very much resembles that of Ontario and southern Canada generally, with the exception that birds are much more varied in kind and much more numerous than with us, and that the song-birds greatly surpass our own both in beauty of voice and variety of note.

To the Teacher.—The animal life of the British Islands so intimately concerns the inhabitants, not only in their occupations and amusements, but also in their very habits of thought, that a fair knowledge of it is important. The following notes may be used in a series of conversations; wherever possible, additional information in regard to the several beasts, birds, fish, etc., should be given, pictures of them be shown, and an exact account of them be imparted; the successful doing of this will depend upon the teacher's tact and skill.—In the British Islands but few wild animals remain, though at one time the wolf, the bear, and the wild boar were common; the elk, too, was once found in Ireland. The fox is still preserved for the purpose of hunting him, so also are rabbits and hares; and in the Highlands of Scotland the stag and the roebuck are preserved to gratify the tastes of the lovers of the chase. The wild goat may still be met with in the mountains of Wales; and a few other animals, like the otter, the marten, the weasel, and the badger, are not yet exterminated, though found only in uninhabited parts. The porcupine, or wild ox, is kept as an object of curiosity in the parks of some of the nobility. Smaller animals, as squirrels, hedgehogs, moles, and dormice, similar to those found in Ontario, abound, but are not all of general distribution. On the whole, Ireland has fewer animals than Britain.

Of birds, the British Islands possess a wonderful variety—a greater variety, perhaps, than can be found in any other region of the same size on the globe. Especially is this true of song-birds, such as the nightingale, the blackbird, the linnet (luteo-bellus), the thrush (mavis), the goldfinch, and the skylark, whose beautiful warblings have been made the theme of many a poet's song, and have become endeared to all the world. These birds are all of small size; other small birds are the sparrow, the wren, the swallow, the marten, the robin, and the cuckoo, some of which are known in Ontario.—Birds of the cook kind—partridges, grouse, and pheasants—are preserved for game, and the shooting of these in their season is an amusement ardently enjoyed by many of the wealthier classes; moreover, grouse, ptarmigan, and the capercaillie, are found wild in the Highlands of Scotland.—Of birds of prey, the principal are the golden eagle, the largest bird of the British Islands, found only in the higher mountain regions, principally in Scotland; the white-tailed

or sea eagle, found in the Scottish islands; and falcons, hawks, buzzards, owls, and shrikes. Other land birds are the crow, the magpie, the jackdaw, and the starling. Of water-birds (both sea-fowl and inland water-fowl) the number of varieties is exceedingly large: of the more common sorts are divers, puffins, gulls, petrels, ducks, geese, gannets, herons, storks, cranes, bitterns, curlews, plovers, sand-pipers, snipes, and terns. The swan is kept as an ornamental bird in the streams and lakes of parks and gardens.—Of reptiles few are found, and these are principally frogs, toads, newts, and a few lizards; the common adder is the only poisonous snake,—no snakes, of any sort, are found in Ireland.

Of domestic animals, both quadrupeds and fowls, all the sorts with which we are familiar in Ontario are everywhere numerous; and to the rearing of pure and improved breeds of cattle, horses, and sheep, and of new varieties of barn-yard fowls and pigeons, great attention is given. For the purity and excellence of its breeds of farm and other stock Great Britain has long been noted.—Of horses, perhaps most attention has been given to "thoroughbreds" for racing, the best of which are descended from an Arabian horse imported in the reign of Queen Anne. "Hunters" are next most prized. The great "English black-horse," much fancied by London brewers, the Clydesdale, the Cleveland Bay, and the Suffolk Punch, are also pure breeds, valued for heavy work.—The Shetland Islands are famous for their breed of diminutive ponies—in size not larger than a Newfoundland dog. Wales, Galloway, and some other districts are also noted for their breeds of ponies.—Of thoroughbred cattle, the different varieties often receive distinctive names from the counties or districts in which they are kept purest: the most famous are the Durhams (or short-horns), the Herefords, and the Devons, and the hardy black and hornless cattle of Aberdeen, Angus, and Galloway—all valued for their weight and grazing qualities; and the Ayrshires, the Suffolks, and the Jerseys (the latter from the island of Jersey), for the abundance and richness of their milk. In the Highlands are found the Kyles, a breed of small cattle much valued for their beauty; and in the Shetlands are found the smallest cattle in the world, little things not much larger than a large-sized sheep, but excellent milkers.—Of sheep, the most noted varieties are the Leicesters, the Lincolns, the Cotswolds, the Southdowns, the Dorsets, and the Cheviots, so called from the districts in which they were first bred, and in which the breeds are kept purest. Sheep-farming is a much more important industry in Britain than we in Ontario should naturally suppose, judging from its inferior importance in our own country.

In fish, the British Islands are peculiarly rich, both in fresh-water fish and sea fish. Of those that are found inland, the trout and the salmon are the most sought after—the trout in nearly all clear streams and lakes, especially in mountainous districts; the salmon in the larger streams of south and west Ireland and north Scotland. The salmon is the most highly prized of all fish, both for its size and delicate flavor, and also as an article of game; and for its preservation and to promote its increase many protective laws have been passed.—The great extent of the coast-line of the British Islands, and the fact that about them are so many shallow waters where fish congregate to feed, have brought it about that a large number of the inhabitants of south and east England, and of east and west Scotland, are engaged in sea-fishing, this industry being, indeed, one of the great industries of the nation.—The most important fish, probably, is the herring, of which, by drift-nets, enormous quantities are taken, off the east and south coasts of England, among the western islands of Scotland in early summer, and in later summer off the east coast of that country. Mackerel, also, are taken in drift-nets.—Second in importance only to the herring fishery is the cod fishery, which is prosecuted by line-fishing—that is, the fish are caught by hooks attached to long lines. The cod are brought into port alive in "well-smacks"—that is, in vessels through the holds of which sea-water is allowed to pass freely. A single smack may put out at once 8 miles of lines, on which will be nearly 5,000 hooks. At Grimsby and Harwich, the great centres of this fishery, the cod are stored and kept alive until they are needed for market. By "long lines," also, the haddock fishery of east Scotland is prosecuted, the famous "Finnan haddies" being caught off the coasts of Kincardine.—By deep sea trawl-nets, turbot, soles, mullet, and haddock are caught, principally on east England coasts.—By sear-nets, pilchards in immense numbers are caught,—almost solely off the coasts of Cornwall.—The east and south coasts of Ireland are also good fishing grounds, principally for herring and mackerel; but the Irish fisheries have not been so energetically worked as those of England and

Scotland.—Of other sea-animala, oysters of fine quality are taken in the estuary of the Thames, and some attention is given to the artificial culture of the oyster at several places on the east coast of England; lobsters for the English markets are obtained principally in the waters of Cornwall, among the Orkneys and Hebrides, and off the west coast of Ireland.

7. Minerals.—In mineral wealth Great Britain is particularly rich—not in the so-called precious metals, silver and gold, but in those most used in the arts—iron, copper, tin, lead, and zinc—and in coal, porcelain, clays, and salt. It is to the fact that England and Scotland each possesses abundant stores of both coal and iron very close to one another that these countries owe their acknowledged supremacy in the arts and manufactures. Ireland possesses immense stores of iron, but, on account of her lack of a near supply of coal, these stores cannot be profitably utilized. Ireland has some valuable coal fields also, but at present they are not worked so as to produce more than a tenth of the amount required for home use. Gold was once abundant in Ireland, and some valuable nuggets have been found in late years; but the supply seems to be now exhausted. Of other minerals, also, Ireland produces but little.

To the Teacher.—The mineral resources of Great Britain have had so much to do with its prosperity that, if possible, they should be understood somewhat more in detail.—Coal is the mineral of greatest importance, since, indeed, it is the “chief material element of modern civilization.” It is the life-blood of Great Britain. Although the supply is great, the available amount being estimated at about 150,000,000 tons, the amount annually raised is enormous, being estimated at about 150,000,000 tons, or one-half the total output of the world. Of this nearly one-eighth is exported to foreign countries. It is in the mountainous districts of north-west England and of Wales, and on the borders of the Forth and the Clyde, and in north Ayrshire in Scotland, that the coal is obtained.—Durham, Lancashire, Yorkshire, Northumberland, Staffordshire, south Wales, and east Scotland, producing the largest quantities.—The iron of England and Scotland derives nearly all its economic value from the near presence of coal, since that fuel is necessary for smelting it. Ireland, as was said above, possesses abundance of iron, and yet, from lack of a cheap supply of coal, its iron adds nothing to its resources. In England iron is abundant almost everywhere, and is fairly abundant in Scotland, especially in the Forth and Clyde valleys; but it is worked only in the coal-producing districts,—Yorkshire, Durham, Lancashire, Staffordshire, Monmouthshire, south Wales, and west Scotland (neighborhood of Glasgow) producing the largest quantities.—Of the remaining mineral resources of Britain, next to iron, but far below it in value, is lead, produced principally in Durham and Northumberland, and in Montgomeryshire and Cardigan, and in the Lowther Hills in Scotland.—Tin has been from the very earliest times a famous mineral product of Britain, the tin mines of Cornwall having attracted the Phenicians and Romans to the island in very early ages; it is found only in Cornwall, however, and in Devon—principally in Cornwall. Of copper, also, the principal supply comes from Cornwall and Devon. Zinc is found in Wales, and in several mining counties in England; and some silver is obtained in combination with lead ores in the lead mines.—Salt is had principally in Chester, which produces 1,500,000 tons annually, obtained both from the evaporation of water from brine and by mining.—Kaolin, or porcelain clay, from which the finer sorts of chinaware are made, is produced in Cornwall and Devon. “Poole’s clay,” used also in the manufacture of pottery, is an important product of Dorset. Fire-clay, used in making fire-bricks for smelting and other furnaces, is an enormous product of Northumberland,

Durham, and south Wales. Building-stone and slates are very widely distributed in mountainous districts. A very superior granite is obtained in great abundance in the Grampians, near Aberdeen.

8. People.—The people of the British Islands are of several original races, but these have become so blended by social intercourse and inter-marriages that it is very doubtful if any people of pure or unmixed race remain. Generally speaking, the ancient Britons—the inhabitants of Britain at the time of its first occupation by the Romans, nearly two thousand years ago—and the Anglo-Saxons—people from Germany who, about 500 years later, conquered the islands—are together the principal ancestors of the present inhabitants. But with these must be included, also, the Danes and Norwegians, who invaded Britain in large numbers in the 9th and 10th centuries, and the Normans (also Norwegians, though they had lived some time in northern France), who settled in Britain under William the Conqueror.

To the Teacher.—The question to what extent the different original races affect the present population of the British Islands is not definitely settled, but it is pretty certainly established that the earliest inhabitants of Britain were a dark-haired race, usually spoken of as Euskarians, and allied, it is thought, to the Basques, or people now found in the western Pyrenees in Spain; and from these the dark-haired people of the islands derive their origin. With these in very early times were mingled the Celts, a light-haired race, who invaded the islands in large numbers and established themselves there, but did not by any means extirpate the earlier inhabitants, but seem rather to have settled among and intermarried with them. These Celt-Euskarians were the inhabitants of Britain at the time of the Roman invasion (the so-called “Ancient Britons” of history), and, though long kept in subjection by successive conquerors, they constantly remained a substantial part of the population, and their descendants constitute a considerable portion of the population at present. The next principal stock, if not indeed a more numerous stock than the Celt-Euskarians, are the Anglo-Saxons, who were, however, of several tribes, as Angles, Saxons, and Jutes. The Danes and Norsemen, and the Normans, though each in turn gained a political supremacy over the islands, were also each in turn absorbed by the earlier races.—Roughly speaking, the Anglo-Saxon population is now found mainly in southern and south-eastern England. To the west and north the population becomes more and more Celtic-Euskarian; till finally, in Cornwall and Wales, it is principally of the ancient Euskarian or Celtic-Euskarian stock. A well-defined Danish stock, however, is found in the eastern counties, and an equally well-defined Norseman stock in Lancashire and the Lake district.—In Scotland, the Anglo-Saxons obtained a firm foothold in the Lothians, and the eastern part of the Lowlands may, on the whole, be said to be occupied by that race. In the north and west, especially in the Isles, the Celt-Euskarians predominate, largely mixed, however, with Danish or Norseman blood; while in the central Highlands unmixed Euskarian blood is principally found. The western Lowlands, also, are occupied by a Celt-Euskarian race, but mixed with Anglo-Saxon blood.—In Ireland, the dark-haired Euskarian race is found in the west and south-west, and Celt-Euskarians, or almost pure Celts, in the remainder of the island, although in the east there are many descendants of the Anglo-Saxons and Normans, who settled there during the early years of the English occupation.—These remarks can scarcely apply other than to the agricultural class, who have moved about but little; the artisan and trading classes, found in towns and cities, and the higher social classes generally, are of all races, blended together by intermarriages.

9. Occupations of the People.—Nowhere are the occupations of the people more varied than in the

British Islands. Notwithstanding that land is dear and hard to obtain, owing to an overcrowded population, nevertheless, the primary occupations of mankind—agriculture, and the rearing of cattle and sheep—still employ a large proportion of the people; and fishing, the third great primitive industry, employs the bulk of the population on all the sea-coasts. But it is for their skill in all the useful arts that the people of Great Britain are most famous; nowhere else in the world are all sorts of manufactures pursued with such vigor and such success as in the towns and cities of England and Wales, and Scotland. The enterprise and ingenuity of the people have been principal causes in effecting this manufacturing supremacy; but it is also largely due to the abundance in these countries of the supply of coal, and consequently to the cheapness with which steam-power can be produced and crude iron be converted into cast-iron and steel. Since the invention of the modern steam-engine and the general employment of coal in smelting iron—each not much more than a century ago—central and northern England and southern Scotland have become, as it were, one vast workshop for the manufacture of almost every sort of article that the world needs, but especially of articles made from iron and steel, copper, lead, and tin; and from wool, cotton, silk, flax, and hemp.—Besides the agricultural, pastoral, fishing, mining, and artisan classes, there are many people engaged in the carrying trade, both on land and on water; but especially in navigation, for Great Britain has such supremacy in ships, and her people are such good sailors, that she is called the “carrier of the nations.” Again, all this farming, pasturing, fishing, mining, manufacturing, and carrying, requires a commercial class; and so large is this latter class in England and Scotland that it was once said of the people of Great Britain by a great man who very much feared them, but who wished to deride them, that they were a “nation of shop-keepers.” In addition, there is necessarily a large professional class; and besides all these, there are, in every part of the United Kingdom, many people whose great wealth—principally in land, descended to them from their ancestors—puts them above the necessity of doing any work whatever: most of these belong to the ancient nobility of the kingdom, and have titles which distinguish them from their less fortunate fellow-countrymen.

To the Teacher.—With regard to the agricultural classes it should be said, that in both England and Scotland small holdings of land are almost

unknown, and the bulk of the rural classes are engaged as laborers for others. In Ireland large farms are much less common; three-fourths of the holdings are less than thirty acres, and one-fifth less than five acres; but few of the occupants of the soil throughout the whole kingdom are its actual owners, and husbandry is in a very low condition. The country is naturally adapted to dairy-farming and stock-raising, but these pursuits receive less attention than they should, principally for lack of capital, but also because the small holdings can yield for their occupants little more than a bare subsistence—and this of the most simply grown and most cheaply raised products.

10. Manufactures.—Great Britain, among all the countries in the world, is unrivalled in the immense amount and variety of her manufactures; and in the inventiveness and skill of her artisans, and in the wonderful contrivances by which machinery is made to supplement human labor, she is surpassed by none, and, until late years, was equalled by none.

To the Teacher.—Varied and immense as the manufactures of Britain are, those of cotton, wool, and iron, are by far the most important. Next in importance are the manufactures of articles of leather, silk, linen, and glass, and porcelain and earthenware, watches and jewellery, paper and hats. Ship-building, too, with its many connected trades, is one of Britain's principal industries. The manufacture of beer and spirits, of soap and candles, of carriages and musical instruments, of furniture and turned-ware, also employs a large portion of the population.—The chief seats of the cotton industry are in Lancashire, Cheshire, and the north-midland country of England generally, and in Lanark and Perth (in and around Glasgow and Paisley) in Scotland, but especially in Lancashire. The woollen and worsted manufactures have their chief seats in Yorkshire and Lancashire in England, and in the south Lowland counties of Scotland. Carpets, both Kidderminster and Brussels, are made principally in Worcester, west Yorkshire, and Ayrshire. The silk manufacture is chiefly carried on in Lancashire, in the central counties, in the London district, and in the larger Scottish cities. The chief seat of the linen manufacture is in Ulster (in and around Belfast), but eastern Scotland (Fife and Forfar) is also largely engaged in it. Hosiery and lace have their principal seats in Lancashire and the midland counties of England, but lace and sewed muslins constitute a very important industry in Ulster also.—The chief seats of manufactures from iron are, for heavy goods, machinery, and so on, south Staffordshire and the adjacent parts of Warwick, Worcester, and Shropshire (that is, the district in and around Birmingham), the Merthyr Tydvil district in South Wales, and the Glasgow district in Scotland; and for cutlery, west Yorkshire or the Sheffield district.—The shoe trade has its chief seats in Northampton and Stafford, and the glove trade in Worcester.—Earthenware is manufactured most extensively in the “pottery district” of north Staffordshire; porcelain in Derbyshire, south Yorkshire, and Worcester; and glass in the Newcastle district, Staffordshire, and the Birmingham district.—Ship-building is most extensively carried on in and near the great seaports at the heads of the large river estuaries, especially on the Clyde, the Mersey, and the Thames, and at Plymouth, Hull, and Newcastle.—Finally, in the metropolis, London, almost every branch of manufacture is more or less carried on; but book-making and its connected trades are its distinctive industry, as indeed they are of Edinburgh, the capital of Scotland.—It will be seen that the manufacturing counties of England are Lancashire, west Yorkshire, Cheshire, Shropshire, Staffordshire, Worcester, Warwickshire, Derby, Nottingham, Leicestershire, Northampton, and Middlesex, in England; Glamorgan, in South Wales; Lanark, Ayr, and Renfrew, in Scotland (and, to some extent, Roxburgh, Fife, and Forfar); and Antrim, in Ireland. Lancashire is known as the “Cotton Country,” west Yorkshire as the “Wool Country,” south Staffordshire and the adjacent parts of Worcester and Warwick as the “Black Country,” or the “Iron District,” and north Staffordshire as the “Potteries.”—Ireland has had many important manufactures both of metals and of fabrics, but, with the exception of that of linen, they have nearly all decayed.

11. Imports and Exports.—The amount of the foreign trade of the British Islands far exceeds that of

any other country in the world. Germany, France, and the United States are the only countries that at all approach Great Britain in this respect, and the imports and exports of Britain are more than double those of any one of these three countries. The articles imported come from every quarter of the globe, and comprise every sort of product that other countries have for sale, both crude and manufactured; but principally they are either articles of food, or else raw material required for the many manufactures in which the people of Great Britain are engaged,—these six articles, however, being, in order, by far the most important: wheat (including flour), cotton, wool, sugar, timber (including fine woods), and tea. The exports, likewise, go to every quarter of the globe; they consist mainly of manufactured goods and coal,—and, in respect of value, in the following order: cottons, woollens and worsteds, articles of iron and steel, coal, machinery, and linens.

To the Teacher.—Of articles of food imported, wheat is by far the most important: it is brought from Russia, Prussia, the United States, Canada, France, Turkey, and Egypt; flour is brought from the United States and Canada; barley and oats, from Canada, Denmark, and Holland; and Indian corn, from the United States and the countries on the Danube. Next to wheat, as an article of food, sugar is the principal import; it is brought from Cuba and the other West Indian islands, the East Indies, and Brazil; the next is tea, brought, to the amount of nearly 100,000,000 lbs. per annum, solely from China and India; and the next, coffee, brought in almost as large quantities from Ceylon, Central America, the West Indies, Brazil, and Arabia. Other articles of food imported are: rice, from India, the East Indies, the West Indies, and the United States; sago, from the East Indies; arrowroot, from the East Indies, the West Indies, and from South America; cocoa, from Brazil; pepper, ginger, nutmegs, cinnamon, cloves, and other spices, from the East Indies and Ceylon; dried fruits—raisins, figs, dates, and so on—from Spain, Turkey, and Italy; currants, from Greece; oranges, from Spain, Portugal, the Azores, and Malta; almonds and other nuts, from Spain and Portugal; and pineapples, bananas, and other tropical fruits, from the West Indies. Beef—salt and fresh—and pork are imported from Canada, the United States, and Australia; and butter, eggs, and cheese are imported from Holland and France—also largely from Canada.—Tobacco (in immense quantities) is imported from the United States—also from Cuba; brandy (in millions of gallons annually), from France; rum (in much larger quantities), from Jamaica and other West Indian islands; and wine (in still larger quantities), from Spain and Portugal—also from France, Germany, and the Canary Islands.—Of the raw materials of manufactures which are imported, cotton is the most important, brought from the United States, India, Brazil, and Egypt. Wool, also, is imported in immense quantities, principally from Australia, the Cape of Good Hope, and India, and some from Canada; alpaca wool and llama wool are brought from western South America; and mohair, from western Asia. Silk (raw) is imported from India chiefly—also from China, Italy, and France. Flax and hemp are imported from Russia.—Of the various kinds of timber, imported pine is the most important, and is obtained chiefly in Canada; but also in Prussia, Russia, and Norway. Mahogany, rosewood, ebony, satinwood, cedar, and other valuable cabinet woods, are brought from Central America, Brazil, tropical Africa, and the East Indies. Box-wood (for wood-engraving) is brought from Turkey. Teak-wood (most valuable for ship-building) is imported in large quantities from India and west Africa.—Other important articles of raw material imported are: hides and tallow, from Russia, India, Australia, and the Argentine Republic; olive oil (used also as a food), from Italy, Spain, and Turkey; coconut oil, from the East Indies and

Brazil; cod oil, from Newfoundland; spermaceti and whale oil from the South Seas, Newfoundland, and Greenland; petroleum, from Canada and the United States; dye-stuffs, from Mexico, Central America, Brazil, and the East Indies; sulphur, from Italy; saltpetre, from Peru and India; and guano, from Peru, and from Ichaboe (off the south-west of Africa).—Moreover, nearly all these articles are imported from other countries than those mentioned, and an immense number of other goods, also, are imported.—The exports comprise, in addition to coal, salt, and fish, which are almost the only natural products exported, every sort of manufactured article, but they are principally articles of cotton, wool, silk, and flax, and of iron, steel, copper, and brass (including all sorts of machinery and cutlery), and earthenware, china, glass, soap, stationery, and books. The great bulk of the export trade is with the British Possessions in India, Australasia, Canada, South Africa, and the West Indies; and with Germany, the United States, France, Holland and Belgium, Italy, Russia, Brazil, and China; but every country and nation in the world has its due share.

12. Shipping.—Great Britain's immense foreign and colonial trade is finely supported by her magnificent commercial marine, which is without rival in the world, and, indeed, beyond all comparison with that of other nations. Regular lines of steamships and sailing-vessels ply between the principal British ports and the chief ports of the United States, Canada, the West Indies, Brazil, India, the East Indies, China, Japan, Australia, South Africa, and Egypt, and the ports of all European countries. In addition, British sailing-vessels of every variety of shape and size trade more or less regularly at every seaport of importance on the entire globe. Moreover, ships from the United States and Canada, and from France, Germany, Holland, and other European states, regularly visit the ports of Great Britain, and assist in the carriage of her immense import and export trade.

To the Teacher.—The shipping of the United Kingdom is more than one-third of the shipping of the entire world, and more than double that of the United States, which is next in importance. The larger number of ships that are now built are constructed of iron; hence the Clyde and the Mersey, which are near the large iron and coal fields, are the great centres of the iron ship-building trade.—Sailing-vessels are being gradually replaced by steamships; and the necessities of commerce seem to require that these shall be built larger and larger year by year.

13. Facilities for Internal Transportation, and for Communication.—Railways are spread like a network over all England and the greater part of Scotland. Ireland, too, is well supplied with railways. The principal railways of Britain ramify from the metropolis. Canals (no longer used for passenger traffic, however) connect all the navigable rivers of England; and two each traverse both Scotland and Ireland, from east to west. Macadamized roads of the best quality are found everywhere; but exceedingly irregular and intricate in their routes—not in straight lines and at right angles to one another, as in Ontario.—The British

post-office system (for transmitting letters, cards, newspapers, books, and small parcels of all sorts) is the model of all the best post-office systems in the world; the telegraph system is also under the control of Government, and is excellently managed as a part of the post-office system.—Ireland is connected with Great Britain by lines of steam mail-packets, and by submarine telegraph cables. Submarine telegraph cables also connect the British Islands with the United States and Canada, and with France, Belgium, Holland, and other European countries, and thus with all the world.

14. Government.

To the Teacher.—As the Government of Great Britain and Ireland is, to a large extent, the model after which our Dominion and Provincial Governments are patterned, the pupils should be given such a knowledge of it as is suited to their ages and capacities. The following notes may be used in conversation:—As was stated in a previous lesson, the Parliament of Great Britain and Ireland is the supreme authority in the whole British Empire; but many of the colonies possess, almost in entirety, powers of legislation and self-government. Parliament consists of two Houses, the House of Commons and the House of Lords.—The House of Commons is practically the omnipotent authority in the whole realm, especially in the British Islands, although all its acts, and all its bills, before they become law, must be approved of both by the House of Lords and by the Sovereign; it is elected for seven years by the people of the British Islands at large, and consists of 670 members, of whom 465 are elected by the people of England, 30 by the people of Wales, 72 by the people of Scotland, and 103 by the people of Ireland.—The House of Lords consists of a varying number of peers, representatives of the ancient nobility of the three kingdoms, England and Wales, Scotland, and Ireland. The peers are of different orders: princes, dukes, marquises, earls, viscounts, and barons. All the peers of England are entitled to sit in the House of Lords for life; but the Scottish peers are represented by 16 members of their order, elected for each parliament; and the Irish peers by 28 members, elected for life. New peerages can be created at any time by the Queen upon the advice of the Prime Minister. Besides the peers, the two archbishops and 24 of the bishops of the Established Church of England are members of the House of Lords.—All government is administered in the name of the Queen, but the real ruler of the empire is the Prime Minister, who, with his fellow-members of the Cabinet, constitutes a committee of Parliament; to whom all authority is entrusted for the time being; but the Prime Minister and his colleagues must have the confidence of a majority of the House of Commons; when that is withheld they must resign their positions to make way for others who shall have this confidence.—The laws of the kingdom are administered by an able judiciary, at the head of which is the Lord High Chancellor; all the judges, except the Lord High Chancellor, are appointed for life, and are so well remunerated, and accorded so much respect and honor, that they are thought to be removed from all temptation to do wrong in their high office.

15. Army and Navy.—One-third of the entire expense of the government of Great Britain and Ireland is for the support of the army and navy. The effective standing army consists of about 140,000 men; but this is not nearly so large as the armies maintained by other European nations, notably by Russia, Germany, France, Austria-Hungary, and Italy; but it is supplemented by a large and well-equipped volunteer force, somewhat similar to our own in Canada, and by a considerable force of "reserves." Great Britain's principal reliance

for defence in time of war is placed upon her navy, which is esteemed the finest and most formidable in the world; it consists of about 60 armor-clad vessels of great size and strength, together with very many other vessels, both steamships and sailing-ships. None but the strongest and swiftest iron steamships are now built, and nearly all are clad in steel armor of great thickness.

To the Teacher.—A large portion (considerably more than one-half) of the land force of Great Britain is distributed among her various military stations all over the world. Besides, in India there is a large army kept ready for service; but its expense is not borne by the home treasury, but by that of India.

16. Religion.—The people of the British Islands have always been remarkable for their attachment to religion; and their character for integrity, justice, and purity of life, is not surpassed, if indeed it be equalled, by any other nation. Any person is at liberty to profess whatever religion he may choose; but certain religions possess civil privileges and rights which others do not have, although the tendency of recent legislation has been towards establishing for all religious denominations perfect equality before the state. In England and Wales, and Scotland, Protestants are very largely in the majority; in Ireland nearly four-fifths of the people are Roman Catholics. In England and Wales, the Church of England (Protestant Episcopal) is established; that is, it is recognized by law as the Church of the kingdom, and is partly supported by money and land which once belonged to the state. In Scotland, the Church of Scotland (Presbyterian) is established. Ireland has no established church.

To the Teacher.—Statistics in reference to the memberships of the religious denominations of England and Scotland are unattainable, but the following statements are approximately correct:—In England and Wales, about one-half of the people belong to the Established Church; of the remainder, Methodists are most numerous; but Roman Catholics, Congregationalists, Baptists, Presbyterians, and Unitarians, are also numerous. There are over 200 separate religious denominations in England and Wales.—In Scotland, about one-half of the people belong to the Established Church; but the whole population is largely Presbyterian, the Free Church of Scotland and the United Presbyterian Church being very strong denominations; and, besides, there are other Presbyterian organizations. Roman Catholics are numerous in the north and west; and the Episcopal Church of Scotland is a large body.—In Ireland, the Protestant Episcopal Church, known as the Church of Ireland, is a large and powerful body, formerly established, comprising one-ninth of the whole population; Presbyterians are very numerous in Ulster; and besides these Protestants there are many Methodists and Congregationalists.—By the law of the realm, the Sovereign of Great Britain and Ireland, and the Lord High Chancellor of the United Kingdom, and the Lord-Lieutenant of Ireland, must be Protestant.

17. Education.—For those who can afford the expense, that is, for the wealthier classes, the facilities for education in Great Britain and Ireland are unsurpassed in the world: in addition to the great universities

and colleges intended for higher education there are, in all the three kingdoms, but especially in England, a great many richly endowed schools, for the education of the sons of the wealthy. But for the education of the poorer classes not nearly so much provision has been made. In Scotland, it is true, the education of the poor has long been fairly attended to; but in Ireland, and especially in England, it is only in late years that the education of the great masses of the people has been much cared for. A large proportion of the people are still unable to read or write, but this gross illiteracy is now rapidly decreasing. The improvement is due—in Ireland to the establishment of an excellent system of national schools; and in England and Scotland to the general establishment of "board schools," or schools supported partly by local taxation and partly by the nation at large, and to the bettered condition of the denominational schools,—the result of the Government aid which they now receive.

To the Teacher.—The great universities are:—Oxford, Cambridge, London, and Victoria (Manchester and Liverpool), in England; Edinburgh, Glasgow, St. Andrew's, and Aberdeen, in Scotland; Dublin, the Royal University, and the Catholic University, in Ireland. Besides these there are very many other excellent institutions for education in all the arts and sciences.—Of the endowed schools, the "Great Public Schools," as they are called, the most famous are Eton, Harrow, Rugby, Winchester, Shrewsbury, the Charterhouse (in Godalming, Surrey), and Westminster (London); but besides these there are many other endowed schools almost equally famous.—Attendance at some school between the ages of 5 and 13 is, since 1872, compulsory in Scotland; and between the ages of 5 and 14, since 1876, compulsory in England.—For the higher education of girls but comparatively little provision is made in all the United Kingdom, though of late some of the very best institutions in the realm have opened their doors to women.

18. Wealth and Poverty.—Perhaps nowhere else in the world are there such contrasts of wealth and poverty as in Great Britain and Ireland. A large proportion of the people are, of course, moderately well-to-do, or comfortably well-off; and though, it may be, not rich, are yet entirely free from the oppression of poverty, or the apprehension of it; these are the so-called middle classes, upper and lower—farmers, artisans, tradespeople, merchants, and so on. Again, there are the so-called upper classes, to whom belong not only those who have become rich through their own enterprise and good judgment in business, and the more fortunate of the learned professions, but also those who have inherited wealth and titles from their ancestors—the members of the nobility and landed gentry, many of them enormously rich. But besides all these there are, in every one of the three kingdoms, in great numbers, the so-called lower classes, who are unable to supply themselves with

the common necessities of life, whose poverty must be relieved by public or private charity, and whose wretchedness and ignorance are beyond anything that we have any experience of in our own favored and happy country.

To the Teacher.—The land of the United Kingdom is held by comparatively few proprietors. Two-thirds of the entire land of England is owned by no more than 10,000 persons—of these many own thousands of acres each; one-fourth is owned by less than 1,200 persons. In Ireland, four-fifths of the whole country is possessed by 3,750 persons; and one-half of the whole country by 750 persons. In Scotland, 12 persons possess not far from a fourth of the whole land of the kingdom.—On the other hand, the number of "registered paupers," or people supported in whole or in part from the public purse, is nearly 1,300,000; of whom, however, by far the greater number are in England and Ireland. The number has been very much greater, but is now happily decreasing, owing, no doubt, to the recent diffusion of the blessings of education among the poor, and, consequently, to their increased self-respect. The relief of pauperism, however, still entails an immense charge upon the country, amounting to many millions of dollars per annum.

19. Chief Cities and Towns.

To the Teacher.—Nowhere else in the world are there so many large cities and towns crowded together in such small space as in the British Islands, especially in England. It will be impossible even to enumerate all here. The following list includes most of the larger and more famous, with some of their distinctive characteristics specified; but the information given in the text should be supplemented by the teacher with details of such other matter (historical, biographical, etc.) as will be useful and as will serve to fix the text in the minds of the pupils. The pupils should be required to locate on the map accurately every place mentioned, and to connect it with the physical feature—river, coal-bed, mineral district, etc.—which has contributed to its importance.—The population given in brackets is (in almost every case) that of the census of 1881.

LONDON, the capital of England and of the British Empire, is the largest city in the world. In 1881 the population included within the City and Metropolitan Police Districts—that is, of "Greater London," as it is sometimes called—was 4,766,661, or nearly half a million more than the total population of the Dominion of Canada; and the population of the city proper was comparatively only a little less. Throughout the whole of the city proper the population is more than 50 persons to the acre, and in a large part of it, it is more than 100 persons to the acre. London is the metropolis not only of England and of the British Empire, but also of the world. It is situated almost at the centre of the land surface of the globe, and its commercial relations extend to people of every kindred and tongue. It is the great money market of the world, and in all matters of trade and commerce, both by land and sea, the world's chief city; and while in these respects it is superior to all other cities, it is inferior to none in manufactures, art, science, and literature. London is the seat of government for Great Britain and Ireland, and either the residence or chief resort of all the principal people of the kingdom—the leaders in statesmanship, learning, art, and science, as well as in wealth and fashion. Its public buildings are among the finest in the world, and many of them, from their historical or other associations, are of great interest to every Briton. Among the more famous of these are Whitehall Palace, the Tower, St. James's Palace and Buckingham Palace (residences of the Queen), the New Palace of Westminster (where the Houses of Parliament meet), the Mansion House (the

residence of the Lord Mayor), St. Paul's Cathedral, Westminster Abbey, Lambeth Palace, the British Museum, South Kensington Museum, the Crystal Palace, the Mint, the Guildhall, the Royal Exchange, the Bank of England, the Central Meat Market, and Billingsgate Fish Market. There are also a great many public monuments and statues, of which the more famous are the Nelson Column, the Duke of York Column, the Albert Memorial, and Cleopatra's Needle (this last brought from Egypt). London is famous for its public parks and gardens; of these, Hyde Park, Kensington Gardens, St. James's Park, Green Park, Regent's Park, and Victoria Park, are the most noted. The bridge over the Thames, the Thames Tunnel, the underground railways, the docks, and the Thames Embankment, are other public works of great importance and interest.—London is a world in itself: people of every nation and language, and of every variety of custom and habit, and of every degree of character, are gathered within its limits. Its contrasts of wealth and poverty, of virtue and vice, of intellect and mental degradation, are of the strongest possible kind; in no other city in the world are there so many wealthy and highly educated people; in none, on the other hand, are there so many whose wretchedness, depravity, and ignorance are so dreadful, so utterly hopeless. GREENWICH, a suburb of London, is the seat of the Royal Observatory, from which longitude is reckoned. WOOLWICH, another suburb, has the largest arsenal in Great Britain; it contains over 24,000 pieces of ordnance, besides guns and ammunition and other military stores.

LIVERPOOL (552,425), with its suburbs, the second city in the United Kingdom, is the great port of the manufacturing district, and, as a seaport, the rival of London; and in the amount of shipping registered at its port (that is, owned by it), it is without rival in the world. Its commerce is with every country on the globe, but principally with the United States and Canada. Its docks, and quays, and floating landings, are the finest in the world. Its great industry is ship-building. BIRKENHEAD (83,324) is, commercially, a part of Liverpool.

MANCHESTER, including SALFORD, (517,649) is the chief city in the world for the cotton manufacture, and in Britain a great centre of political interest and of science and art. It is also celebrated for the number and excellence of its public buildings, its parks, its colleges, its free libraries, and its charitable institutions. It is one of the great railway centres of the kingdom.

BIRMINGHAM (400,757) is the chief city in the kingdom for the manufacture of all sorts of metal work, including iron and steel goods, tools, machinery, steam-engines, firearms, cutlery, and pens. It is also noted for its brass-founding, its saddlery, its gold, silver, plated, bronze, ormolu, and japanned wares, its papier maché goods, and its manufacture of toys, jewellery, and buttons. Birmingham, like Manchester, is a great canal and railway centre.

LEEDS (309,119) is the great centre of the woollen manufacture, including broad-cloths, narrow-cloths, kersey-meres, beavers, and carpets. Large quantities of manufactured webs are brought from other towns to Leeds to be finished. Its cloth market is the most famous in the world.

SHEFFIELD (284,410) is the chief seat of the manufacture of

cutlery, silver-plate, and plated-goods. It is also noted for its German-silver goods, buttons, combs, and optical instruments.

BRADFORD (183,037) is the chief seat of the manufacture of worsteds, both yarns and stuffs; it is also noted for its mohairs, alpacas, and silks.

LEICESTER (122,376) is the chief seat of the manufacture of woollen hosiery; it is also noted for its lace, cords, and elastic webs. NOTTINGHAM (111,631) is the chief seat of the manufacture of cotton hosiery and of lace. OLDHAM (111,343) has the largest machinery works in the world. It is also noted for its manufacture of velvets and silks.—Other towns especially noted for their manufactures are:—BOLTON (105,422), for cottons; BLACKBURN (104,012), for cottons and woollens; PRESTON (86,532), for cottons and linens; NORWICH (87,842), for shawls, crapes, muslins, dress-goods, and handkerchiefs; HUDDERSFIELD (81,825), for broad-cloths, kersey-meres, and fancy-goods; DERBY (77,636), for ribbons, hosiery, and porcelain; WOLVERHAMPTON (75,738), for locks, tools, nails, and general iron-mongery; HALIFAX (73,633), for unfinished woollens and silks; ROCHDALE (68,865), for coarse woollens and calicoes; STOCKPORT (59,544), for cottons; BURNLEY (58,882), for cottons and woollens; WALSALL (58,806), for iron-mongery; BROMWICH (56,299), for hardware; NORTHAMPTON (51,880), for boots and shoes; BURY (51,582), for cottons; IPSWICH (50,762), an ancient, irregularly-built, old-fashioned town, for woollen cloths and yarns; HANLEY (48,354), for pottery; WIGAN (48,196), for woollens, cottons, and iron; DUDLEY (46,233), for iron-ware; READING (42,050), for silks and velvets; COVENTRY (42,111), for silk gauze and ribbons, elastic webs and lace; ASHTON-UNDER-LYNE (37,389), for calicoes and ginghams; MACCOLESFIELD (35,480), for silks; WORCESTER (33,955), for china-ware and gloves; CARLISLE (31,074), for cottons and prints; SHREWSBURY (23,406), for linen thread and canvas; KIDDERMINSTER (19,473), for fine carpets and rugs; STOKE-UPON-TRENT (19,263), for china and earthenware; and TAUNTON (15,466), for silks and woollens.

BRISTOL (206,874) is one of the chief seaports in the kingdom for foreign trade; it is also noted for its cathedral, and other fine public buildings. Opposite to Bristol is its suburb, CLIFTON (26,364), famous for its warm springs.

HULL (181,225) is the chief seaport in the kingdom for the North Sea and Baltic trade. Its docks, basins, quays, and warehouses, rival those of Liverpool.

NEWCASTLE-UPON-TYNE (145,228), GATESHEAD (65,873), on the opposite side of the Tyne, and SOUTH SHIELDS (56,922), together form one of the great seaports of England, in this respect ranking next in importance after Hull. They are largely engaged in ship-building and in the manufacture of sail-cloth, cordage, and other ships' supplies. Their manufacture of machinery, glass, firearms, ordnance, and chemical products, are also extensive. SUNDERLAND (116,262) is an important seaport, noted for its export of coal and manufacture of glass. PLYMOUTH (75,096) is noted for its Baltic and West India trade, and its ship-building (principally for the navy). In Plymouth Sound is the celebrated Plymouth Breakwater, the most famous structure of the sort in the world. Entrance into the Sound is guided by the celebrated Eddystone Lighthouse. SOUTHAMPTON (60,235) is a

calling-place for the steam-packets which ply between London and the Mediterranean ports, India, and Australia, at which they often take on or put off passengers. Southampton has a large ship-building trade. STOCKTON-ON-TEES (41,040) has a North Sea and Baltic trade, and is engaged in ship-building. CHESTER (35,257), an old Roman town, also has a ship-building trade. DOVER (28,590), an old Roman and Saxon town, has a harbor of refuge, and is the chief port of communication between England and France. FALMOUTH (5,294), from its position, is a great resort for shipping in stormy weather. It also has a good West Indian and South American trade.

PORTSMOUTH (127,953) is one of the great naval stations of England, with a Government dockyard containing basins, dry and wet docks, forges, and every other necessary for the construction and outfit of ships-of-war; also with a Government arsenal containing armories and ammunition depots for the equipment of soldiers. In Portsmouth Harbor the whole British navy might ride at anchor in perfect security. DEVONPORT (48,745) has the largest naval arsenal in the kingdom, and its Government dockyards are the finest in the world. CHATHAM (46,806) is another of the chief naval and military stations of England, containing great barracks, armories, dockyards, military schools, hospitals, and so on. SHEERNESS (13,956) also has a famous Government dockyard.

BRIGHTON (107,546), one of the most beautiful cities of Europe, is the most famous watering-place of Great Britain. BATH (51,790), built mostly of white freestone, is also famous for its beauty, and claims to be the most beautiful city in Britain. It is noted for its warm medicinal springs, and is a fashionable health resort. CHELTENHAM (44,519) is also a fashionable health resort by reason of its saline springs. TYNEMOUTH (43,863) and HASTINGS (42,256) are favorite sea-bathing places. SCARBOROUGH (24,259) is famous both for its sea-bathing and for its mineral springs. LEAMINGTON (20,910) derives its fame from its sulphur and chalybeate springs.

YORK (54,198), one of the oldest cities in England, is celebrated for its beautiful Minster, the finest cathedral in England, and one of the most beautiful buildings in the world. York is the residence of one of the two archbishops of England. CANTERBURY (20,962) likewise has a famous cathedral, and is the residence of an archbishop also, who is primate of all England and the first peer of the realm. LINCOLN (28,766) has a cathedral which is second in beauty only to that of York—its exterior being even superior to it. EXETER (34,650), ROCHESTER (21,590), WINCHESTER (16,366), for a long time the capital of England, DURHAM (14,932), SALISBURY (12,903), ELY (6,114), and Norwich and Worcester, previously mentioned, all have cathedrals which are the architectural pride and glory of the kingdom.

YARMOUTH (46,211) is the great seat of the herring fishery. GRIMSBY (26,244) and HARWICH (6,079) are the great seats of the cod fishery. COLCHESTER (22,612) is a principal seat of the oyster fishery.

OXFORD (32,477) and CAMBRIDGE (30,078) are the seats of the two great universities of England. Their collegiate buildings—colleges, halls, libraries, museums, churches, and chapels—are

the finest structures devoted to education in the world. Oxford is thought to be one of the most beautiful cities of England.

TRURO (11,049) is the great centre of the tin and copper-producing districts, and of the tin ingot and plate manufacture.

MERTHYR-TYDVIL (91,347) is noted for its coal and iron mines, and for its iron works. CARDIFF (82,573) is a seaport town with large exports of coal, iron, steel-rails, and tin-plate. SWANSEA (63,739) is the great centre for copper-smelting. It is also famous for its iron, zinc, and tin works. LLANELLY (14,973) has tin, copper, and iron works. PEMBROKE (14,197) is one of the oldest towns in the kingdom, and was formerly a fortress of great strength. CARNARVON (9,449) has mines of copper, lead, slate, and coal. MILFORD (3,252) is the point of departure, by steam-packet, for Ireland.

EDINBURGH (236,002) was the capital of the former kingdom of Scotland, and is now the seat of the Scottish Supreme Courts. It consists of two parts—the Old Town, irregular but romantic-looking, with lofty houses built on lofty sites; and the New Town, regular and modern-looking, built for the most part of white freestone—together forming one of the most picturesque cities in Europe. High Street, in the Old Town, and Princess Street, in the New Town, are the pride of the city. Among the more famous public buildings of Edinburgh are:—Holyrood Palace, the residence of the ancient Scottish kings; the Castle, once the strongest fortress in the kingdom; St. Giles's Cathedral; the Outer House, once the meeting place of the Scottish Parliament; and the Royal Institution. The University of Edinburgh is one of the famous universities of Europe; and the educational institutions of the city, both classical and scientific, are unsurpassed. As a literary centre, Edinburgh is second only to London, and its book-publishing trade also is next to that of London. LEITH (61,168), the seaport of Edinburgh, has an important trade with foreign ports on the North Sea, and with the ports on the Baltic; it has also an important herring and haddock fishery.

GLASGOW (511,532; with its suburb 374,095), the metropolis of Scotland, and one of the great cities of the empire, is famous for its iron ship-building and machine-making, its "Clyde-built" ships and engines being known over all the world. To make Glasgow accessible to the sea immense sums of money have been spent in deepening and widening the river, and now vessels of the largest size can ride safely at all states of the tide, alongside her magnificent docks and quays. Glasgow has a large trade with Canada and the United States, and is the great centre of the sugar and tobacco import trade. In chemical-making, calico-printing, glass-blowing, cotton-weaving, and wool-weaving, Glasgow has also a pre-eminent place. Glasgow University is an excellent institution, and possesses a magnificent building. Among the other famous public buildings are the Cathedral and the Royal Exchange. Near Glasgow is GREENOCK (63,899), with shipping and manufacturing industries similar to those of Glasgow.

DUNDEE (140,054) is the principal seat in Great Britain of the linen, hemp, and jute manufactures. It is also the principal seat of the British whale fishery.

ABERDEEN (105,003) is the seat of an excellent university; also of many manufactures. It has a large foreign and coasting trade, and exports salmon and other fish to London. It is famous for its quarries of fine granite.

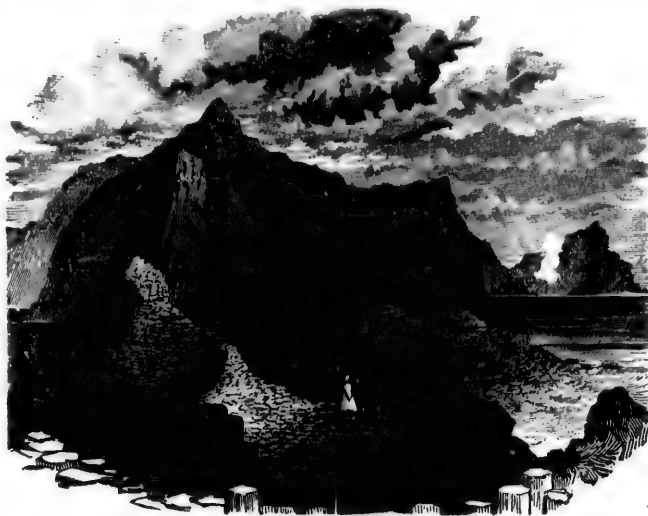
PAISLEY (55,042) is famous for its manufactures of silk and woollen shawls, muslins, silks, and fancy-goods. **PERTH** (28,780), an old Roman town, exports fish and potatoes to London, and has manufactures of cotton-stuffs, gingham, and shawls. **KILMARNOCK** (24,977) is famous for its manufactures of carpets and shawls. **ARBROATH** (21,758) is famous for its spinning mills, by which it produces flax and hemp yarn; also for its manufacture of canvas and of brown and bleached linens. **AYR** (20,821) manufactures carpets and blankets, and is a place of popular resort.

INVERNESS (17,366), one of the most ancient places in Britain, is beautifully situated at the outlet of the Caledonian Canal into Moray Firth, and has manufactures of linens and plaidings. It is called the "Capital of the Highlands." **DUMFRIES** (17,090) is called the "Capital of South Scotland"; it is famous for its manufactures of tweeds, hats, and hosiery. **DUNFERMLINE** (dum) (17,085) is the chief seat in the United Kingdom for the manufacture of table-linen; also of colored cotton and worsted table-covers. **STIRLING** (16,013), for a time the capital of Scotland, is celebrated for its picturesque situation and for its lofty ancient castle, from which may be obtained a view unequalled for beauty in Britain. It has manufactures of shawls and tartans, and is noted for its dye-works. **KIRKCALDY** (15,055) is noted for its manufactures of bed-tickings, canvas, and other coarse linen fabrics. **MONTROSE** (14,975) is an important seaport, its harborage and dockage being the best on the east coast of Scotland. **DUMBARTON** (13,782), a very ancient town, famous for its castle, has glass-works, and iron ship-building yards. **GALASHIELS** (12,434) is famous for its tweeds, woollen stockings, blankets, flannels, shawls, and plaids. **SAINT ANDREW'S** (5,969) is the seat of the oldest Scottish university.

DUBLIN (with its suburbs, 349,648) is the metropolitan city and capital of Ireland, being the chief seat of its commerce, and

the centre of its political, ecclesiastical, educational, military, and railway systems. Its manufactures, however, are very few—the only extensive ones being those of beer and ale, and of distilled liquors. Once the city was famous for its manufactures of woollens, silks, and linens, but these have all decayed; its commerce, however, is improving. Dublin has some of the finest streets, and some of the finest buildings, both public and private, of any capital of Europe; but the beauty of the city is marred, and even the grandeur of its noblest buildings obscured, by the presence everywhere of such poverty, wretchedness, and squalor as characterise few cities of its size in the world. Among the more noted of the public buildings are Trinity College, the Bank of Ireland, St. Patrick's Cathedral, Christ Church Cathedral,

the Castle, the Customs' House, the Four Courts (for the sessions of the superior courts), and the Post-Office. Dublin is famous for the number and stateliness of its public monuments and statues,—among the more celebrated of these are the Nelson Pillar and the Wellington Obelisk. Dublin suffers, like other Irish cities, from the perpetual absence abroad of the wealthy land-holding aristocracy of the kingdom; of all the peers of Ireland, only two are said to have residences in the capital. As an educational centre, Dublin holds high rank; it is the seat of the three great universities of Ireland, and of many scientific institutions and societies. The Bay of Dublin is one of the finest in the British Islands. **KINGSTON**, on



THE GIANTS' CAUSEWAY.

To the Teacher.—On the north coast of Antrim is the famous Giants' Causeway, an irregular platform compacted of about 40,000 dark-colored, perfectly-formed, polygonal, basaltic columns. This platform, starting from the base of a high basaltic cliff, projects like a pier or causeway about 700 feet out into the water, and is about 350 feet in breadth, and of varying height, ranging near to 30 feet. Tradition ascribes its construction to the labor of giants in ancient days, who desired to construct a road across the sea to Scotland. The island of Staffa, in Scotland, in which is the celebrated Fingal's Cave, is a formation somewhat similar to the Causeway.

its south side, is the principal harbor of the city and the resort of its largest shipping.

BELFAST (208,122) is second to Dublin in population and trade, but far superior to it in manufactures. In addition to its other manufactures, it is the chief seat of the linen manufacture of the world, and the depot of the whole linen trade for which the north of Ireland is famous. As a seaport, Belfast is improving in importance, and its ship-building and manufactures of ships' supplies are extensive. Queen's College, Belfast, is an educational institution of high rank.

CORK (80,124), at the head of a magnificent harbor (one of the best in Britain), has a fine shipping trade, especially with

English and Scottish ports, to which it exports the farm produce and the famous salmon of the south of Ireland. Its manufactures are important. Its cathedrals and churches are exceedingly fine, and much famed. Queen's College, Cork, is an excellent educational institution. At the entrance to Cork Harbor is QUEENSTOWN (9,738), which is the port of Cork for large shipping. LIMERICK (38,600) is famous for its manufacture of fish-hooks and Irish lace. It also exports farm produce in great quantities. LONDONDERRY, or DERRY (28,947), is a famous historical town, with linen, flax-yarn, and other manufactures, and a large export trade. At MOVILLE, which is the seaport of Londonderry, ocean steamers on the Atlantic route from Canada and the United States to Glasgow and Liverpool call to put off and receive their mails. WATERFORD (22,401) is the port of shipment of the produce of south-eastern Ireland, including bacon, live stock, dairy produce, and salmon. GALWAY (14,620), the largest town in western Ireland, once had a magnificent foreign trade; but this has long since declined. Its exports now are principally wheat, flour, kelp, marble, and wool. Galway is the seat of one of the Queen's Colleges. In CLADDAGH, a suburb of Galway, the Erse, or native language of Ireland, is still the language of the people. DROGHEDA (12,516), one of the historic towns of Ireland, has good cotton and flax spinning-mills, and a fair export trade. DUNDALK (12,294) has important fisheries. KILKENNY (12,182) is famous for its antiquities, including a fine old cathedral, several monasteries, and a castle. It also has, in good preservation, one of the famous ancient "round towers" of Ireland. SLIGO (10,764) is a seaport town with some manufactures. CLONMEL (10,519), a town of great antiquity, has a large trade in agricultural produce.

Exercise.—1. Compare in size England, Scotland, and Ireland, severally, with Ontario. 2. Describe the climate of England, of Scotland, and of Ireland. 3. Point out on the map the various grain-producing, pasturing, and fruit-producing districts of the British Islands. 4. Give some account of the condition of agriculture in the British Islands. 5. Give some account of the animals of Great Britain and Ireland. 6. Compare the birds of Great Britain with those of Ontario. 7. Point out on the map the various districts of Great Britain which are famous for their pure breeds of farm stock. 8. Describe the fisheries of Great Britain. 9. Give some account of the principal manufacturing industries of Great Britain and Ireland. 10. Divide the British Islands into districts with reference to the occupations of the people. 11. Trace on a globe the various courses of the export and import trade of Great Britain. 12. Trace on a globe the routes of the great steamship lines of Great Britain. 13. Describe the facilities for internal transportation, and for communication, possessed by the British Islands. 14. Describe the condition of the British Islands with respect to education. 15. Describe the condition of the people of Great Britain and Ireland with respect to the distribution of wealth and poverty. 16. Locate on the map the various cities and towns mentioned in the text. 17. What reasons are there that the towns of England should be much more populous than those of Ireland?

LESSON XLI.

THE COUNTRIES OF THE CONTINENT OF EUROPE.

I. GERMANY.

1. The Empire of Germany: Its Extent and Population.—The German Empire is a confederation of twenty-five states, of which the principal are Prussia, Bavaria, Saxony, Württemberg, and Baden. Prussia is by far the largest of the confederated states, and the King of Prussia is hereditary German Emperor. The area of the empire is 208,683 square miles; the population is about 45,500,000.

To the Teacher.—Alsace-Lorraine is not a confederate state of Germany; it belongs to the whole empire in general.—In very recent times Germany has been endeavoring to establish a colonial empire. On the west coast of Africa, a territory called Lüderitz Land, between the Orange River and Cape Frio, is claimed by Germany—also some other parts; and on the east coast, a considerable area back of Zanzibar. Northern New Guinea, and the adjacent Bismarck Archipelago, also belong to Germany. Although these so-called colonial possessions cover about 450,000 square miles, there are no German settlers in any of them.

2. Boundaries and Physical Features.

To the Teacher.—Teach from the map the boundaries of Germany; also the relative positions and boundaries of the principal states of the empire.—Teach also from the map the positions of the principal mountain ranges, the names and courses of the principal rivers, and the names of the seas and bays which are found along the north.—In respect of its surface-features, Germany is divisible into two distinct parts. Northern Germany, the larger part, is a low uniform plain, through which run to the sea a noble series of navigable rivers. Southern Germany is very varied in structure: it is for the most part mountainous or hilly, especially in its southern portions, and has few navigable rivers; it has, however, wide stretches of plateau land—one of which comprises almost the whole of Bavaria—and some low, fertile valleys, of which those along the banks of the Rhine are famous for their richness and the salubrity of their climate. The Danube is navigable throughout the whole width of the Bavarian plateau, and the Rhine is also navigable throughout all its German course.

3. General Description of Germany and its People.—Germany is one of the most important countries of the world. In political influence upon other nations it is, perhaps, superior to every other state. In its manufactures, its shipping, and its foreign trade, though inferior to Great Britain, it rivals France, and even the United States. In the variety and value of its mineral resources, and in the suitability of its soil and climate to productive agriculture, it has great natural advantages, and these have been fully turned to good account by its frugal and industrious people.—Germany possesses one of the very best systems of education in the world, and in consequence its people are, in general, intelligent and well educated: illiteracy is, in most parts of the empire, very rare—in Prussia it is especially so.

Most of the inhabitants of Germany are true Germans, although there are many Poles in the east; but there are 13,000,000 Germans who live in Europe outside of the empire, principally in Austria-Hungary, Switzerland, and Russia. About five-eighths of the people of Germany are Protestants; most of the remainder are Roman Catholics (these principally in southern Germany).—Germany maintains an immense army and a considerable navy—its military strength is, perhaps, superior to that of all other states save Russia.

To the Teacher.—The climate of Germany is temperate, and, on the whole, very much the same throughout all its parts, but milder and more genial in the south-west than elsewhere, and colder and more extreme in the north-east. The soil is, in general, fertile,—in the Rhine provinces extremely so; in the north and east, however, there are considerable areas of sandy, barren heaths, but even in these otherwise arid districts the river-borders are fertile.—In the Rhine valley, and in all south-

4. Chief Cities.

BERLIN (1,122,360; with its suburbs, probably 1,300,000) is the capital of Prussia and of the German Empire, and in respect of manufactures, the first city of Germany. It is of world-wide fame as a great educational, literary, and scientific centre, and its educational institutions, both literary and scientific, and its academies for instruction in the fine arts and music, are among the most celebrated of Europe. HAMBURG (410,127) and BREMEN (156,723) are great commercial towns, with a large foreign trade (especially with American ports). BRESLAU (272,-

912), the capital of Silesia, is famous for its great wool-market and for its linen manufactures. MUNICH (230,023), the capital of Bavaria, is noted for its magnificent museums of painting and sculpture.



VIEW ON THE RHINE.—TOWER AND RUINED CASTLES.

western Germany, vine-culture is the principal occupation of the people, though the culture of tobacco is in these parts an important industry also. Throughout the rest of the empire the ordinary cereals and root-crops generally prevail; but the beet-root for sugar-making, hemp, flax, madder, and saffron, are very important crops in central Germany, and hops are an important crop in southern Germany.—Saxony and eastern Prussia are great sheep-raising countries, and in south-eastern Prussia, or Silesia, a very fine wool is produced.—Germany is remarkable among all the nations of the world for its care of its forests—tree-culture, indeed, is recognized as a science, and, with agriculture, is carefully taught in schools and colleges.—Coal and lignite are widely distributed throughout central and western Germany. Iron is very abundant; but it is found only in the south, and not near the coal deposits. Silver, copper, and zinc are produced more abundantly by Germany than by any other European state, and lead also is largely produced. Salt is abundantly produced and largely exported.—The fisheries of Germany—herring, oyster, and cod—are very important.—The manufactures of Germany much resemble those of Great Britain, and comprise nearly every article needed by the people. The internal trade of the empire is very great.—Germany exceeds every other country in the world in the number and importance of its universities. It has altogether 21 great universities, with nearly 2,000 professors and teachers, and 21,000 students; of these, the universities of Berlin, Leipzig, Munich, Breslau, Tübingen, Bonn, Göttingen, Halle, and Heidelberg, are the most famous. Besides its universities, Germany has many other educational institutions of the very highest rank.

DRESDEN (222,241), the capital of Saxony, is also noted for its collections of paintings, statuary, gems, porcelain, and jewels,—they are indeed the largest and most splendid in the world. LEIPZIG (149,081; with its suburbs, 175,000?) has probably the largest book-publishing business in the world. It is also famous for its conservatory of music. HANOVER (145,227) is the capital of the Province of Hanover, the Electors of which were for a time the kings of Great Britain. COLOGNE (144,772) and STRASBURG (104,501) are celebrated for their magnificent cathedrals. KÖNIGSBERG (140,909) and MAGDEBURG (137,135) are two of the most strongly fortified cities in the world. FRANKFORT-ON-THE-MAIN (136,819) is the chief banking city of Germany, and inferior only to London as the greatest money market in the world. STUTTGART (117,303), the capital of Württemberg, has famous museums and libraries, and an excellent conservatory of music. DANTZIG (108,549) is a great seaport, and one of the most famous wheat markets in the world. NÜRNBERG (99,519) is the most famous city in the world for the manufacture of toys, trinkets, and wooden clocks. AIX-LA-CHAPELLE (85,551) is especially noted for its cloth manufactures.

II. FRANCE.

1. The Republic of France: Its Extent and Population.—France is a very compact country, with an area of 204,090 square miles, and a population of about 37,700,000. The colonial possessions of France are considerable; but they are for the most part conquered territories or "protected" states, and not colonies in the true sense of the term.

To the Teacher.—The island of Corsica is, politically, an integral part of the republic. Algeria, in northern Africa, is the most important colony; the French inhabitants are less than 150,000, however. Tunis, also in northern Africa, is a French protectorate, but it has no French population other than resident officials.—In Africa, on the west coast, there are large French possessions on the Senegal and the Gambia rivers, and also on the Gaboon; and smaller possessions on the Ivory Coast, and the Slave Coast. In eastern Africa, the French claim a large territory opposite Aden. Réunion (or Bourbon), and some other islands near Madagascar, are also owned by France.—In Asia, France has Pondicherry, and some other small possessions, in India; Cochin China and Cambodia, in Farther India; and she claims sovereignty of Tongking (or Tonquin), and also a protectorate over Annam.—In America, France possesses Micquelon and St. Pierre, off Newfoundland; several West Indian islands; and Cayenne, or French Guiana, in South America.—In the Pacific Ocean, France possesses several islands and groups of islands, the more important being New Caledonia and Tahiti.—The foreign possessions and claims of France comprise about 770,000 square miles, and 26,000,000 people, —but the number of Frenchmen in all these is comparatively very small.

2. Boundaries and Physical Features.

To the Teacher.—Teach these from the map; the following notes may be used:—France is almost entirely enclosed by well-defined natural boundaries, —the only exposed frontier of any considerable length is at the north.—The larger part of France belongs to the Great European Lowland Plain—the Rhone valley and its enclosing watersheds being the only exceptions to this. This lowland part is, however, by no means monotonously flat, but rather very varied in surface—much resembling England east of its central "backbone." Through this plain-part flow many large rivers; three of these, the Seine, the Loire, and the Garonne (this latter in the lower part of its course called the Gironde), are not only navigable themselves, but have many tributaries which are also navigable. The Rhone, though a rapid river, is likewise navigable. These natural facilities for inland navigation have been much increased (to the extent of one-half) by the construction of canals.—The coast of France is nearly everywhere low, and good harbors are very infrequent, the only naturally good ones being Havre, St. Malo, Brest, Bordeaux, Marseilles, and Toulon. In the south-west (south of the Garonne) the shore line is of shifting hills of fine white sand; and the adjacent interior district is known as the Landes. The Landes are, for the most part, a desert of sandy heath, which yields only the scantiest food for sparse flocks of sheep. (The shepherds of the Landes are somewhat famous: they may be said to pass their lives on their stilts, since they descend from them only at nightfall and resume them again early in the morning.) Much of this barren country has of late years been reclaimed by artificial drainage.—In the south of France, the shore of the Gulf of Lyons is nearly everywhere lined by salt-water marshes, from which, by natural evaporation, much salt is produced, and "harvested" by the neighboring people.

3. General Description of France and its People.—France is one of the great states of the world. Its manufactures, though inferior in variety and magnitude to those of Great Britain, are yet of very great importance. Its foreign commerce is also very great;

but this is largely carried on by means of British or other outside shipping. Its mineral resources are very great, especially in coal, iron, lead, marble, and salt. Its naval strength is next to that of Great Britain, and its military strength rivals that of Germany.—France enjoys one of the most genial climates in Europe, and its soil, though not surpassingly fertile, yet yields abundantly such products as are suited to it: olives and the mulberry tree in the south; grapes in the middle parts; and apples, wheat, barley, oats, maize, the beet-root, and the potato, in the north.—The French people are very frugal and very industrious; they are often described as being vain, fond of pleasure, and desirous of military glory—but this description applies only to some classes. Agriculture, in its several branches, is the principal occupation of the people; but the manufacture of rich and delicate fabrics in silk, cotton, wool, and linen, of gloves, of fine boots and shoes, of elegant articles in porcelain, china, and crystalware, of watches, clocks, jewellery, and fancy-goods, of artificial flowers and other ornaments of apparel, of toilet soaps and perfumes, and of wooden and cloth shoes for home use, besides very many other things, employs large populations in the cities and towns.—France is a republic, its system of government being similar to that of the United States. Its system of public education is an excellent one; and its facilities for instruction in the fine arts and in the higher branches of science are unsurpassed. Roman Catholicism is the prevalent religion; but all religions are tolerated, and Protestants and Jews, as well as Roman Catholics, receive aid from the state in the maintenance of their pastors and churches.

To the Teacher.—The great coal-beds of France are in the north, adjacent to Belgium; and in the south, along the west side of the Rhone. Iron is exceedingly abundant in France, but, unfortunately, it is not found near the coal-fields. Elegant marble, alabaster, and fine building stone, are also plentiful and easily obtained; and to this abundance the cities of France, especially Paris, owe their beauty. Caen stone, from Normandy, is imported into Canada.—Although the climate of France is genial, the country suffers much from inclement winds.—France is the most important vine-growing country in the world: the grapes are used principally for the manufacture of wines and liquors, the more famous sorts being champagnes, clarets, light wines, and brandies. In the manufacture of brandy, imported sugar is also very largely used. Beet-root is most extensively cultivated, and is used both for the manufacture of sugar and of alcohol.—A peculiarity of French agriculture is that the farms are very small, averaging not more than from five to ten acres each: this results from a law which compels fathers to bequeath their property to their children in equal shares.—The silk manufactures are principally in the centre and south (district of Lyons); the cotton and linen manufactures in the north and north-west (districts of Lille and Rouen); the fine cotton and lace manufactures in the north-east (districts of Valenciennes and Cambrai); the watch manufactures in the east (district of Besançon); the spirit and wine manufacture in the valley of the Garonne (district of

Bordeaux), and in Champagne (district of Rheims).—Fishing is a very important industry of the French—especially for sardines, off Brittany; and for cod, off Newfoundland and Iceland. The rearing of oysters is also an important industry on the west coast.

4. Chief Cities.

PARIS (2,269,023), the capital and metropolitan city of France, is the most beautiful city in the world, and, next to London, the largest. In the number and magnificence of its public buildings, its literary and scientific institutions, its museums, its libraries, its galleries of art, its palaces, its churches, its bridges, its triumphal columns and arches, its statues and its fountains, its boulevards and its parks, Paris is unrivalled. Paris is also a great manufacturing city, manufacturing, principally, beautiful and expensive articles of luxury. Paris is generally looked upon as the world's chief centre of fashion and taste, and the manners and customs of refined Parisian people influence society in every civilized country. Paris is also one of the great cities of the world in respect of literature, painting, sculpture, music, and the drama. Near Paris is VERSAILLES, one of the handsomest towns in Europe, and noted for its beautiful palaces and gardens. Four miles from Versailles is SEVRES, of world-wide fame for its manufacture of beautiful porcelain.

LYONS (347,619) is the first city in the world for the manufacture of silks. Its other manufactures are also very numerous. MARSEILLES (269,340) is the great seaport of France. Its commerce in wines, southern fruits, anchovies, and cork, extends to all parts of the world. BORDEAUX (221,305) has an immense trade in wines, brandies, and southern fruits. ROUEN (166,002) is a great manufacturing city, famous for its cottons and confectionery. LILLE, or LISLE, (162,775) is noted for its cotton and linen manufactures, especially calicoes, handkerchiefs, and threads. TOULOUSE (127,196) is the chief seat of the trade with Spain. ST. ETIENNE (126,019) is in the midst of a rich coal district, and has the most important iron and steel manufactures in France. NANTES (122,247) is a beautiful, finely-built city, with a large marine trade. HAVRE (105,540) is the port of Paris; its commerce is with all the world, but chiefly with America and the north of Europe. RHEIMS (93,683) possesses one of the finest cathedrals in Europe. TOULON (70,509), BREST (66,110), and CHERBOURG (35,691), are great naval stations, strongly fortified.

III. ITALY.

1. **The Kingdom of Italy: Its Extent and Population.**—The Kingdom of Italy consists of the Italian peninsula, the islands of Sicily and Sardinia, the island of Elba, and about sixty smaller islands. The total area is 114,410 square miles, and the population about 28,500,000.

2. Boundaries and Physical Features.

To the Teacher.—Teach these from the map.—Italy's frontier line is very distinctly marked: where it is not surrounded by water the great mountain barrier of the Alps separates it from its neighboring states.—The Alps and the Apennines are the features which, next to the proximity of so much water,

most affect the climate, and hence the resources, of Italy. The Apennines are in reality a continuation of the Maritime Alps, and they stretch as a central "backbone" down to the very extremity of the peninsula, and may be said to be continued farther as the mountains of Sicily.—Between the Alps and the northern Apennines is the great Lombardy Plain, one of the most level and most fertile tracts in Europe, watered freely by the Po and its branches, and by the Adige. The Po, though navigable through its entire length, is but little used for navigation, owing to the suddenness and frequency with which its current is increased in times of rain or when the snows of the mountains are melting. The remainder of Italy, apart from the mountain ranges, is of very varied character, level near the sea, but undulating and hilly as the mountains are approached. Of the level parts, those districts known as the Maremma of Tuscany, the Campagna of Rome, and the Pontine Marshes, and the great plain adjacent to the Gulf of Tarentum, though all naturally fertile and once populous inhabited, are now almost deserted, owing to the presence in summer time of deadly malaria, exhaled from the soil everywhere, whether it be dry or wet.—Besides the Po and the Adige, the only other considerable rivers are the Arno and the Tiber.—The lakes of Italy—Como, Maggiore, Garda, and Lugano—are much celebrated for their scenery.—Southern Italy has suffered severely from earthquakes and volcanic eruptions, and several of its mountainous districts are made up of extinct volcanoes. The well-known Mount Vesuvius, near Naples, has been in constant volcanic activity for over 1,800 years. Mount Etna in Sicily, and Stromboli on one of the Lipari Islands, are also volcanoes in constant activity. The volcanoes are not without their good qualities, however: from the ejected lava, materials for pavements and building are obtained; of the finer sorts, ornaments are fashioned; and other sorts, when disintegrated by atmospheric agency, become excellent soils.

3. **General Description of Italy and its People.**—Italy was, in ancient times, the mistress of the world, and even in more modern times it exercised great influence; but for several centuries its power decayed, and it is only very recently that it has become once more one of the great states of Europe. Its soil is fertile and its climate genial, and a fair expenditure of labor and care ensures the abundant harvest of all products natural to both warm and temperate regions; its mineral resources, also, with the exception of coal, are very great; moreover, from the extent of its coastline, and its central situation, it has superior facilities for developing and maintaining a large foreign trade; but all these natural advantages were, for a long time, allowed to remain unimproved. Of the people, those who were rich and powerful—the so-called upper classes—cared only for themselves; and, though refined and highly educated, they were notoriously immoral. As a consequence, the national character greatly deteriorated; immorality became general among all ranks, and the lower classes were indolent, unambitious, and exceedingly ignorant; and, though theirs was a land in which nature most amply repays the tiller of the soil for his slightest effort, yet their poverty was deplorable,—their food coarse, in-nutritious, and insufficient, and their clothing and habitations equally wretched: the country was aptly described as a nation of princes and beggars. But this sad condition of things is being gradually improved. The present

government is energetic, and very solicitous for the real welfare of the nation, even its poorest members; and the improvement in the moral, material, social, and intellectual status of the people since 1870, when the present Kingdom of Italy was established, has been marvellous. The kingdom maintains a superior military and naval strength; and the government has done much to promote agriculture, manufactures, and internal and foreign commerce; it has established an excellent system of education; and its support and encouragement of art, science, and literature, is most generous. The Roman Catholic religion is that professed by nearly all the people, and it is maintained almost entirely at the expense of the state; the Pope, the head of the Church, resides at Rome, the capital.

To the Teacher.—The climate of Italy is very different in its different parts. In the Lombardy Plain, which is influenced by the cold mountain-tops of the Alps, and shielded from the south by the northern Apennines, the climate is much colder than in parts lying to the south of these latter mountains; and the principal products are wheat, millet, and rice—it is indeed the great rice ground of Europe. On the other hand, the Genoa versant, which is exposed to the warm moist winds of the Mediterranean and protected from the north, although it is in the same latitude, produces the most luscious of southern fruits—oranges, lemons, olives—in great abundance, and supports the aloe, the cactus, and the palm. In central and southern Italy similar differences prevail: on the warm coasts are found the olive, the fig-tree, the orange, the lemon, the citron, the lime, and the almond; the sugar-cane ripens and the cotton plant flourishes to perfection; pomegranates and aloe form the enclosures of the fields, and the liquorice root, the oleander, and the myrtle, grow wild. Higher up, in the interior, the vine everywhere flourishes (as it does, indeed, on warm hillsides throughout all Italy), and the mulberry tree is largely cultivated; while regions still higher up the mountain sides are, in winter, so exposed to excessive cold that they produce only the most hardy cereals.—Of articles of food, bread made of maize, rye, or barley, and beans, constitute the principal diet of the lower classes; and, in some districts, acorns. Wheat pastes (macaroni and vermicelli) are also largely used, especially in the south. The sweet chestnut, which grows wild on the sides of all Italian mountains, is a favorite article of diet with the rural classes. Animal food, with the exception of fish, is but little used. The poorness of the food of the lower classes of Italy has done much to spread among them a terrible disease known as the *pellagra*.—Agriculture is the prevalent occupation of the people, but it is in an extremely backward condition. Vine-growing, and the rearing of mulberry trees for the support of the silk-worm, are important industries. (Italy, next to China, is the greatest silk-producing country in the world.) Wool-growing is also an important industry.—The manufactures of Italy are improving: the principal manufactures at present are silk-throwing, silk-weaving, cotton-weaving, the tanning of skins, the plaiting of straw goods, and the weaving of flax and hemp—the last two being largely domestic industries. For the making of fine artistic pottery Italy has been celebrated from time immemorial; and for its manufacture of beautiful mosaics it is unrivalled. The manufacture of jewellery, and of trinkets in coral, glass, and lava, is also

very considerable.—Owing to the number of fast days observed, Italy is a great fish-consuming country, and its fisheries are important. Anchovies and sardines (the latter so called from the island of Sardinia) are the principal fish exported.—Of minerals, fine iron-ore from the island of Elba is exported to England, Italy not being able to smelt its own iron for lack of coal. Borax is an important mineral product: it is obtained along some of the shores of Tuscany from vapors exhaled from an infinite number of low volcanoes and springs, which are in constant violent ebullition. Alum pits are also common in Tuscany. Sulphur is obtained in abundance in the volcanic districts of Naples and Sicily.—Sanitary conditions have been little observed in Italy. "Many of the provincial capitals and cathedral cities are portentously filthy." This state of things is being improved, however.—The Italians have long been noted for their love of art—music, painting, sculpture, architecture—and some of the finest paintings and finest sculptures in the world are to be found in Italian churches and palaces. Art students throng to Italy from all parts of the world. Besides the art schools and musical conservatories supported by the Government, there are many other very excellent art institutions established by local authorities.—The system of primary education now established in Italy is both free and compulsory.

4. Chief Cities.

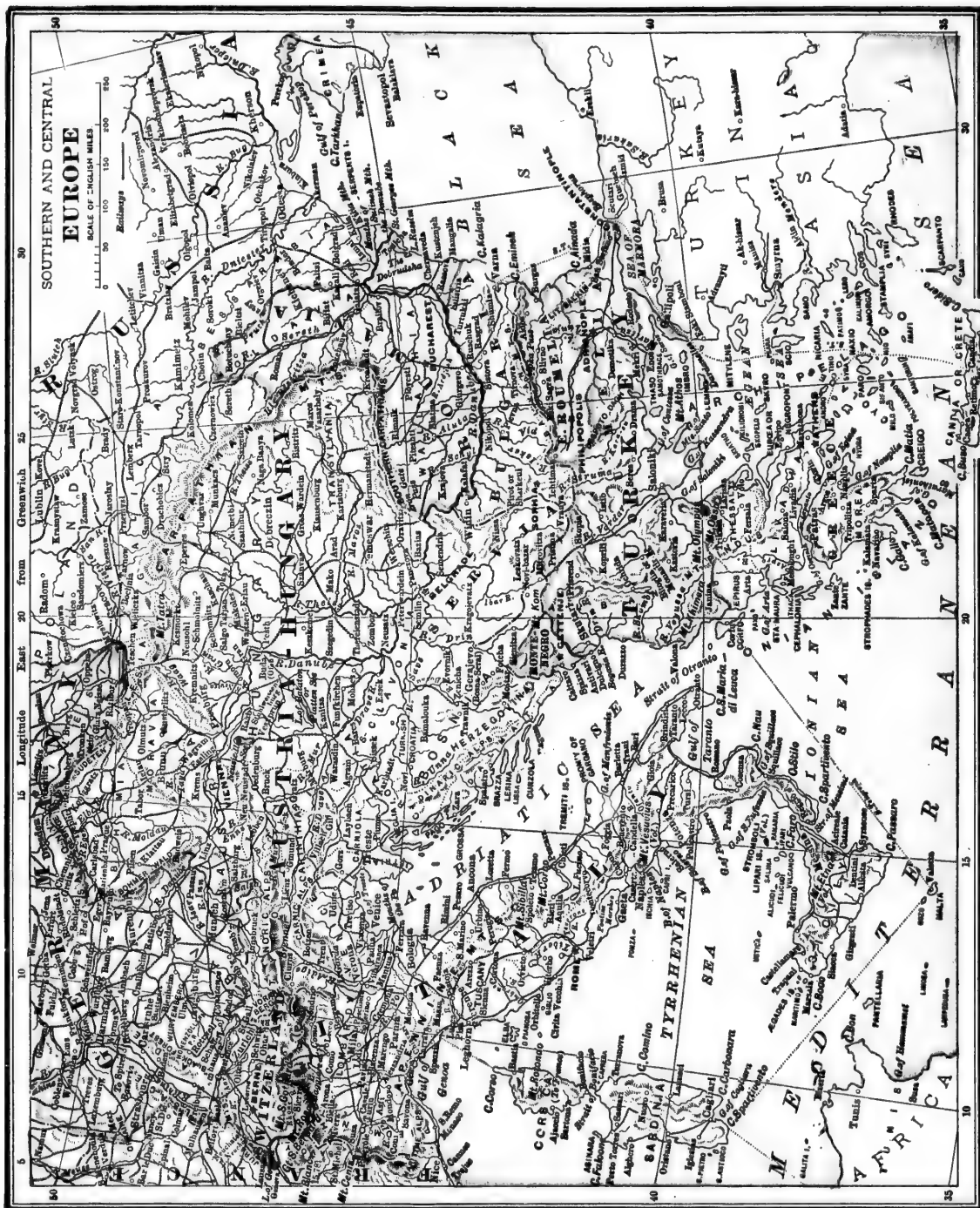
ROME (305,400), the capital of Italy, is, from its great antiquity, its historic fame, and the grandeur and interest of its architecture! adornments, the most celebrated city in the world. It was the most splendid city of ancient times, and evidences of its former splendor now remain as magnificent ruins. It has been for centuries the chief centre of the great Roman Catholic religion, and the residence of the Popes; and in the number, architectural beauty, and sumptuousness of its churches, it surpasses every other city, whilst its palaces are equally magnificent. St. Peter's Church, at Rome, is the largest and most splendid ecclesiastical edifice ever erected, and the wonder of all sight-seers. The Palace of the Vatican, or residence of the

Pope, is perhaps the most famous building in the world: its chapels, halls, and other apartments, number 4,422; its galleries of sculpture and painting, its museums of antiquities and of objects of curiosity, and its famous library, are the pride of Europe. The modern Capitol, or senate-house, is also rich in every sort of work of art. Rome is visited annually by people from every part of the world, who go there to delight in its magnificence or to study its art-treasures.

NAPLES (458,614), the largest city in Italy, is most picturesquely situated on the Bay of Naples, and is famous for the beauty of its surrounding scenery. So great is this beauty that it is a common saying, "See Naples and die." As an offset to its natural beauty it should be said that it is crowded with an indolent and wretchedly impoverished populace. The manufactures of Naples are principally vermicelli and macaroni. Naples has the largest university in Italy.—Near Naples are Herculaneum and Pompeii, once populous cities, but which were buried under ashes and lava ejected from the volcano Vesuvius, A.D. 79.



CATHEDRAL AT MILAN.



MATTHEW, NORTHROP & CO., 487-NORTH THIRD ST., ST. LOUIS, MO.

1
Ex
Hun
Hun
supp
rela
even
gove
mile

To
over t
into se
Lower

Their sites have lately been largely cleared of the ashes under which they were so long hidden, and the streets and houses of those ancient cities are now exposed to the view of sight-seers. MILAN (295,543) is of world-wide celebrity for its exquisitely beautiful cathedral, built of snow-white marble. Milan is a great publishing city. Its opera-house, the Della Scala, is the most famous in the world. TURIN (231,636) has a great university and fine museums of works of art and antiquity; BOLOGNA (111,773), and PADUA (66,151), are also famous for their ancient universities. GENOA (178,006) is a great manufacturing and commercial city, especially noted for its velvets and silks, and for its exports of oils, fruits, rice, cheese, and rags. (Owing to the fact that the clothing of the Italian poorer people is almost entirely of cotton and linen, the collection of rags for paper-making is an important Italian industry.) FLORENCE (167,714) is celebrated for its extensive libraries and galleries of paintings, for its beautiful palaces, and especially for its cathedral, or Duomo, which has the finest and largest dome in the world. VENICE (131,276) is one of the most wonderful cities in the world. It is built on a great number of little islands, and so completely is the land occupied by edifices that there are no streets, properly so-called, only innumerable little alleys which cannot be used except by pedestrians; all traffic is carried on in the canals of the city, which take the place of streets in other cities; and boats or barges take the place of wheeled vehicles. The Grand Canal is lined on either side with such beautiful palaces that it is called the finest "street" in Europe. The Church of St. Mark, at Venice, is greatly celebrated for its rich and elegant interior. LEGHORN (98,302) is an important seaport with exports of silk and silk goods, plaited straw goods, and borax. PISA (50,374) is famous for its wonderful and beautiful leaning tower, built of white marble.—PALERMO (236,579) is a seaport town, with exports of fruits, wines, essences, oils, skins, sulphur, cream of tartar, liquorice, and manna. MESSINA (121,856) is famous for its silks and satins, and for its oranges and other fruits. Both Palermo and Messina have extensive fisheries of anchovies, tunnies, etc. CATANIA (91,417) exports silks, and wares of lava and amber.

IV. AUSTRIA-HUNGARY.

1. The Empire of Austria-Hungary: Its Extent and Population.—The Empire of Austria-Hungary is made up of two distinct states, Austria and Hungary, confederated for common objects, such as the support of the army and navy, and the maintenance of relations with foreign countries—each possessing, however, its own parliament, and its own ministers and government. The area of the empire is 261,591 square miles, and its population about 39,200,000.

To the Teacher.—Besides Austria and Hungary, the empire has authority over the Turkish provinces of Bosnia and Herzegovina.—Austria is divided into several provinces, or "crown lands," of which the more important are:—Lower Austria, Upper Austria, Bohemia (formerly a kingdom), Moravia,

Silesia, Galicia (or Austrian Poland), Styria, Tyrol, Salzburg, Carinthia, Carniola, Istria, and Dalmatia. Similarly Hungary is divided into Hungary (proper), Transylvania, Slavonia, Croatia, and the Military Frontier. The area of Austria is 115,916 square miles; of Hungary, 125,568 square miles; of Bosnia and Herzegovina, 20,117 square miles. The population of Austria is about 22,160,000; of Hungary, 15,725,000; of Bosnia and Herzegovina, 1,325,000.

2. Boundaries and Physical Features.

To the Teacher.—Teach the boundaries of the empire, its more important physical features, and the relative positions of the crown-lands, from the map.—The outline of Austria-Hungary, though fairly well defined by coast-line, mountain-range, or river, is very irregular.—The Alps, in their various divisions, occupy most of the south-west of the empire. The fertile plain of Bohemia is surrounded by mountains; and the Carpathians form a huge arch around the greater part of the crown-land Hungary.—Austria-Hungary has no great river entirely its own, but it has parts of some of the largest rivers in Europe. The principal river of the empire is the Danube, which is navigable throughout all its course through the empire, and many of its affluents are navigable as well. The Hungarian valley of the Danube is a great fertile plain, known as the Plain of Hungary. Austria-Hungary has a comparatively short sea-coast; and as the greater portion of its territory is separated both from this coast and from its neighboring states as well, by high mountain ranges, the empire has comparatively little foreign commerce.

3. General Description of Austria-Hungary and its People.

—Austria-Hungary is largely a mountainous country; but it contains little land that cannot be cultivated, and many parts of it are very fertile. Its mountainous districts all abound in mineral wealth: in the variety, richness, and wide-spread distribution of its mineral resources, it exceeds every other country in Europe; but these resources have not as yet been fully taken advantage of. Its climate is very varied: in the south, tropical fruits are produced in abundance, and the mulberry tree is largely cultivated for the support of the silk-worm; in the middle zone, maize and the grape ripen to perfection; whilst the northern zone yields rich harvests of such grain crops and roots as are grown in Ontario.—Austria-Hungary is one country in name, but in respect of the languages, customs, and religious beliefs of its inhabitants, it is made up of several very dissimilar parts, so that the continued political unity of the empire is not by any means assured. Austria, especially in the west, is largely engaged in manufactures, commerce, and mining, as well as in agriculture; but Hungary has few industries other than agriculture, vine-growing, and the rearing of cattle and sheep. Agriculture in both countries is in a very backward condition. The prevalent religion of the empire is the Roman Catholic; especially is this so in Austria. The present education system of Austria-Hungary is an excellent one.

To the Teacher.—There is scarcely a mineral product which is not found more or less abundantly in Austria: of the more common kinds may be mentioned gold and silver, obtained in Transylvania, Hungary, and Bohemia;

iron, generally throughout the empire, but principally in the west; copper, in Hungary; lead, in Carinthia; quicksilver (in extremely rich mines), in Carniola; tin, in Bohemia; zinc, in Galicia; salt (in the finest rock-salt beds in the world), in Galicia; and coal (in inexhaustible beds), in the western parts generally. In addition, fine porcelain clays are found in Bohemia; beautiful marbles, in the Alps; precious stones (opals, garnets, etc.), in Hungary and Bohemia; and other valuable metals and minerals in various parts.—The mountain sides of Austria-Hungary show a gradation of climate similar to that which obtains in the empire generally; at the base may be seen vineyards and maize fields; higher up are fields of wheat, barley, oats, and rye, and forests of oak, pine, beech, and elm; while higher up still, live only such trees and plants as can endure the temperature of an arctic region.—Despite the want of scientific farming, Austria-Hungary, for the amount and variety of its agricultural produce, ranks high among European states. Bee-keeping is a great industry in the central provinces, and hop-growing in Bohemia. The wines of Hungary are very famous, and Austria-Hungary is one of the great wine-producing countries of the world.—The manufactures of Austria are very important; they include cotton-spinning and weaving (in Lower Austria and Bohemia), wool-weaving (in Bohemia, Moravia, Silesia, and Upper Austria), silk-weaving (in Lower Austria), iron and steel goods, both heavy and light (in Lower and Upper Austria, Bohemia, Moravia, Carinthia, and Styria), glass (for which Bohemia is noted the whole world over), porcelain-ware (in Bohemia and Moravia), chemical stuffs (in Bohemia, Lower Austria, and Silesia), children's toys (made by the peasants of the mountainous districts in Tyrol, Salzburg, Upper Austria, and Bohemia), mathematical, optical, and surgical instruments (in Vienna and Prague), leather goods (in Lower Austria, Bohemia, and Moravia), sugar, from the beet-root (in Bohemia and Moravia), and beer (especially in Lower Austria and Bohemia).—The Adriatic fisheries are an important industry of the people of Dalmatia; and leeches, obtained in swamps along the coast, are a considerable article of export there. The population of Austria is largely German; but in Bohemia and Moravia the people are principally Czechs, a Slavonic race. The people of Galicia (who are principally Poles), and of Croatia, Slavonia, and Dalmatia, are also Slavonians of various races. The people of the crown-land Hungary are principally Magyars—a Mongolian race. Besides all these races, there are in the empire many Wallachians, Jews, Italians (these in Tyrol), and Gypsies.—Although the Roman Catholic faith is the prevalent religion, yet there are many Catholics of the Greek and Slavonic rites, especially in Hungary and Galicia; besides, in Hungary and Galicia, there are many adherents of the Oriental Greek Church, many Protestants, and many Jews.

4. Chief Cities.

VIENNA (1,231,000) is the capital of Austria and the capital of the empire. It is a great manufacturing city, and is especially noted for its silk-velvets, shawls, ribbons, gold and silver lace, porcelain, mathematical and musical instruments, and beer; and also for its cottons, woollens, and carpets. It is also a great publishing city. Its university is one of the most renowned in Europe, and is especially famous for its faculty of medicine. Vienna is justly celebrated for its libraries, galleries of art, museums, and scientific schools. It is also noted for its magnificent public parks, gardens, and promenades; and, altogether, Vienna is one of the finest cities in Europe, although its situation is neither picturesque nor healthful. Its growth in recent years has been marvellous.

BUDA-PESTH (360,551), formerly two cities, now incorporated as one, is the capital of Hungary. In BUDA, which is the older, but smaller, of the two cities, are the royal palace, and the venerable buildings of the Hungarian Government. PESTH is of more modern appearance; it is the "new" city, and has a fine trade and important manufactures. It is also the seat of a famous university.

PRAGUE (162,323), the capital of Bohemia, is remarkable for the antiquity and architectural interest of its churches, palaces,

and public buildings. It is the centre of a great manufacturing district, and the seat of a renowned university. TRIESTE (144,437) is the great seaport of the empire, and the emporium of a large trade with Britain and the other countries of Europe, and also with Egypt, India, and the east generally. LEMBERG (110,250), the capital of Galicia, is a great commercial town, with a large Jewish population. GRÁTZ (97,726), the capital of Styria, has important manufactures in iron, steel, cotton, wool, and silk, and excellent educational establishments. BRÜNN (82,860), the capital of Moravia, is noted for its woollen manufactures. CRACOW (66,095), formerly the ecclesiastical capital of Poland, has many palaces, cathedrals, etc.—pathetic evidences of its former greatness.

Austria-Hungary is remarkable for the great number and popularity of its mineral springs, some of which, as those of CARLSBAD, MARIENBAD, and TÖPLITZ, are very famous.

V. RUSSIA.

1. The Empire of Russia: Its Extent and Population.—Russia, the area of which is 8,457,289 square miles, is, next to Great Britain, the empire possessing most land surface on the globe; but whereas the territories belonging to Great Britain are scattered over all the world, the territory under Russian rule is exceedingly compact. The population is also very great, being about 102,750,000; but so vast is the area over which it is scattered, that Russia is, on the whole, but thinly populated.

To the Teacher.—European Russia comprises: (1) Russia Proper, of which the area is 1,837,610 square miles, and the population 77,000,000; (2) Russian Poland: area, 49,158 square miles; population, 7,350,000; (3) Finland: area, 144,254 square miles; population, 2,100,000; and (4) Cis-Caucasia: area, 87,455 square miles; population, 1,750,000. Asiatic Russia, in its four divisions of Trans-Caucasia, Trans-Caspian Russia, Central Asia, and Siberia, has an area of 6,288,812 square miles, and a population of 14,550,000.

2. Boundaries and Physical Features.

To the Teacher.—Teach these from the map.—Most of European Russia is part of the Great Lowland Plain, and is absolutely without either mountains or hills, except in two small districts. The great water-parting, between the rivers which flow northward and north-westward, and those that flow southward and south-eastward, consists merely of a series of low undulations. The rivers of Russia are among the most magnificent in Europe, navigable throughout almost their entire courses; and, being connected together by an excellent system of canals, they afford almost unequalled facilities for internal transportation; yet so large is the country that there are yet many fertile districts waiting for lack of communication with the great markets of the world.—Much of Russia is unfit for cultivation. The tundras, which occupy most of the area north of parallel 64°, are swamps in summer, and during the long nine months' winter are vast fields of ice. The peninsula of Finland, between the Gulfs of Finland and Bothnia, is a region of innumerable lakes interspersed among granite rocks and hills of sand. The whole area between the Ural River, and the middle and eastern shores of the Black Sea, consists, for the most part, of low, flat areas, called "steppes." The steppes to the westward (including those of the Crimea) have a mouldy soil, that supports, indeed, an annual growth of grass; but, though used by wandering tribes for

pasturage, it is burnt up every summer by the excessive heat which obtains in these regions; and those to the east—the Caspian steppes—consist largely of sand impregnated with salt, or of salt lakes and marshes, and are completely unproductive of anything except salt, of which great quantities are obtained by evaporation. Again, in the central and western parts are many marshy areas, as, for example, the Pinsk Marshes; and much of Russia, not included in the above areas, is still covered with forest—especially the region immediately south and south-west of the tundras; in the valley of the northern Dwina is also considerable forest land.

3. General Description of Russia and its People.—Although much of the soil of Russia is in-

fertile, it yet possesses vast areas suited to agriculture or to pastoral occupations, and much of its forest occupies a productive soil. It has also, in the Ural district, rich stores of gold, platinum, and copper; much iron, in the southern provinces; and immense beds of coal, in the valley of the Donetz, and near Moscow. Its climate, however, is somewhat against it, being far colder than in corresponding parts of Europe to the west, since the whole country is exposed to the cold winds of the north, and shielded by mountains from the warm winds of the south. Yet, notwithstanding its inclement climate, and

the very rude state of its agriculture, Russia produces more grain than it needs, and is, indeed, one of the great grain-producing countries of the world. It has, also, considerable manufactures; but these are principally of the simpler and commoner kinds, and much of its manufacture is domestic.—Russia is inhabited by people of many races and of many tongues; but the dominant people are Russians proper, who are of the Slavonic race, and the dominant language is that spoken by them. The government is the absolute authority of the Czar or emperor; but public opinion, as expressed in newspapers and other ways, does much to influence his action. The estab-

lished and prevalent religion is the Greco-Russian Catholic Church. The Czar is the head of the church, as well as of the government, and makes the appointment of every church officer throughout the whole of his vast dominions. The people are divided into several very distinct ranks—the highest being the nobility, who own most of the land; and the lowest being the common people, who, until 1863, were nearly all slaves, either of the nobles or of the Czar. The education of the lower classes is in

a lamentable condition, but something is being done to improve it.—Russia maintains an immense standing army, and a considerable navy; but the government is very expensive and extravagant, and very heavily in debt.

To the Teacher.—The climate of Russia is very varied, and nowhere is the temperature at all equable: in south-eastern Russia the winters are extremely cold, and the summers extremely hot. In the north-west, rain is excessive; in the south-east, during the long summer, rain very seldom falls.—The forest growths are principally the pine, the larch, and the birch, in the north; and the oak, the lime, and the maple, in the central parts. The products of the forests, besides timber, include tar, pitch, turpentine, and potash.—Rye is the staple farm product, and the chief food of the people. Barley grows everywhere; wheat grows principally in the south-west and in the centre. Other farm products are oats, millet, flax, and hemp:

for its flax and hemp, and for flax-seed and hemp-seed, Russia is very famous. Hemp-seed oil is largely used by the peasantry for food, especially during the church fast days, which, taken together, occupy half the year. In the south, vine-growing, and the rearing of the silk-worm, are important industries. Bee-culture is very general, the wax being used to make church candles. In the pastoral regions cattle and sheep are extensively reared; tallow, hides, and skins are largely exported, but Russian wool is, as a rule, of poor quality. Sheepskins form the main clothing of the peasantry. Horse-breeding is also an important industry; the horses of the Cossack tribes in the south-east are famed for their hardy vigor. Camels are kept by the wandering tribes of the steppes, and dromedaries in the Crimea. (Much of the trade between European and Asiatic Russia is accomplished by caravans). In Lapland the reindeer is domesticated and forms the principal wealth of the inhabitants.—Of wild animals, the aurochs, or urus, is found in the forests of western Russia; the bear, the wolf, the elk, the fox, and the marten, are found principally in the north. On the Arctic coasts the walrus and the seal abound.—Birds, especially water-fowl, are numerous, and include the eider-duck in the north, the capercaillie in the



WALRUS AND SEAL.

central forests, and the pelican in the south.—The fisheries of the White Sea are very valuable, and, besides salmon and herring catching, include whale fishing and seal fishing. The Black and Caspian seas also have important fisheries.—Internal commerce in Russia is effected principally by fairs, held at different places. Russia has small advantages for a foreign marine trade: its White Sea and Baltic ports are blocked with ice for many months in the year. The exports from the north are principally timber, tar, turpentine, potash, flax, hemp, flax-seed, hemp-seed, cable yarn, wool, tallow, hides and skins, furs, feathers, bristles, bones, and isinglass; and from the south, grain, beef, seeds, tallow, and wool.—Of races, besides the Russians, there are the Poles, also a Slavonic race, in the west; the Lithuanians (who are not Slavonians), also in the west; the Finns, in the north-west; and the Tartars (a Mongolian race), in the south-east. In addition, there are, in large numbers, Germans, Jews, Persians, Armenians, Circassians, Georgians, and Mongols. Although the Greco-Russian Church is established by law, dissenting religions are allowed, on certain conditions: of these the more numerous are Roman Catholics (principally in Russian Poland), Lutheran Protestants (principally in Finland and the Baltic Provinces), Mohammedans (in the south and south-east), and Jews.—The Russian Government discourages the use of any language other than Russian, especially as an instrument of education.

4. Chief Cities.

ST. PETERSBURG (929,100), the capital, is, in comparison with other European capitals, a modern city, having been founded in 1703. Its site is ill-chosen, being low, marshy, unhealthy, subject to inundations, and difficult of access from the sea. Yet, notwithstanding this, it is built in a style of great magnificence, and ranks as one of the finest cities in Europe: its massive public buildings, surmounted by gorgeous gold-plated domes, its straight and spacious streets, its great imperial palaces (among them the celebrated Winter Palace, the largest and finest in Europe), its cathedral, its splendid monuments, its superb granite quays, its numerous handsome bridges,—all entitle it to this praise. St. Petersburg is the chief educational centre of the empire, and has many excellent literary and scientific institutions, and many fine museums and art galleries. It has a large export and import trade, but its harbor is closed from November to May. It has, also, a large interior trade; and its manufactures, especially of munitions of war, are very numerous and extensive.

Moscow (750,867), formerly the capital of Russia, is one of the most picturesque cities in Europe. Its cathedrals and churches (among which is the famous cathedral of St. Basil), its palaces and towers, are of almost every imaginable style of architecture, and are all ornamented in great magnificence, and surmounted with domes, steeples, cupolas, turrets, and belfries, gilt either with silver or with gold. In the heart of the city is the celebrated Kremlin, or citadel, crowded with palaces, churches, monasteries, arsenals, and museums, nearly all of fantastic Asiatic architecture. Moscow is a great manufacturing city, but it is principally famous as being the emporium of the vast interior trade of the empire, both European and Asiatic. WARSAW (406,261), formerly the capital of Poland, has many fine churches and palaces, built in the time of its national glory. It is now a great manufacturing city. ODESSA (217,000) is a great seaport, strongly fortified, with an immense export trade in grain, tallow, iron, linseed, wool, hides, cordage, sail-cloth, tar, and beef. NIJNI NOVOGOROD (?) is celebrated for its great fair, held annually for two months in summer, and attended daily by from 200,000 to 300,000 merchants from all parts of

Europe and Asia,—the principal goods sold being tea, costly shawls, carpets, and silks, and sheepskins and iron. RIGA (98,892) has a large trade in characteristic Russian produce. NIKOLAIEV (82,905) is the principal station of the Russian Black Sea fleet. KHARKOV (82,133) is noted for its great cattle and wool fair. TULA (57,374), from its metal manufactures, is called the "Sheffield and Birmingham of Russia." ASTRAKHAN (48,220) is noted for its exports of fish, caviare, and isinglass. KRONSTADT (47,166), one of the most strongly fortified places in Europe, is the great naval station of Russia. PERM (22,288) is the centre of the mineral trade of Russia. ARCHANGEL (19,936) is the emporium of the trade of the north, and exports characteristic northern Russian produce.

There are many other important towns in Russia.

VI. THE REMAINING COUNTRIES OF EUROPE.

1. The United Kingdom of Sweden and Norway.—Sweden and Norway are distinct and separate nationalities in every way, except that they have one king. Sweden is, for the most part, flat or undulating in surface. In the north it is largely covered with forests; in the central parts it possesses rich stores of iron, copper, zinc, nickel, cobalt, alum, and marble—especially of iron; and in the south it is a good agricultural country, and produces abundantly all ordinary farm products.—Norway is a plateau country, with many irregular mountain elevations, and many deep valleys and gorges; and, although a large portion of its surface is covered with valuable timber, most of it is naked, bleak, and inhospitable, only one-thirtieth being fit for agriculture. It possesses good harbors, however, and is largely engaged in ship-building, and its mercantile marine is quite extensive. Its fisheries, too—especially of cod and herring—are very valuable; and its mines, though less rich than those of Sweden, are important.—The people of both Sweden and Norway are hardy, frugal, industrious, and intelligent. The government, in both countries, is well and economically administered, and the education of all classes is carefully attended to. The established religion, in both kingdoms, is the Lutheran Protestant; but all other religions are tolerated.

To the Teacher.—The area of Sweden is 173,974 square miles; its population, about 4,700,000. The area of Norway is 121,740 square miles; its population about 1,900,000.—Teach the boundaries and physical features from the map.—About one-eleventh of the surface of Sweden is covered with lakes. Norway also has numerous lakes, but is more remarkable for its "fjords," or sea-inlets, whose high and steep banks, clothed with forests, make wildly grand scenery. Though the rivers of the peninsula are very numerous, neither country has any large rivers; but the rivers of Norway are of great use in supplying water-power for its numerous mills and mines. The

shores of both countries are studded with islands; but those of Sweden are low and sandy, while those of Norway are high and rocky, with many swift, dangerous currents among them.—Although little coal is found in Sweden and Norway, the iron product is very large, the metal being smelted by means of charcoal obtained from the forests, and Swedish iron and steel are of great repute.—Besides timber, and charcoal and fuel, the forests produce large quantities of tar and turpentine, obtained from the roots of the pine.—The climate of both countries (and especially of Norway) is not so severe as might be expected from their northern situation, owing to the near presence of so much water, and, in Norway, to the influence of the Gulf Stream; but Norway is excessively humid.—Besides its other products, Norway supplies much of the elder-down and feathers of commerce, obtained from the sea-fowl which literally swarm among its islands; and its oyster and lobster fisheries, its salmon fisheries, and its whale fisheries, are important and productive.—The wilder regions of the peninsula abound in wild animals and game—the bear, wolf, lynx, and fox, the deer, elk, reindeer, and hare, the seal and otter, and the grouse,—and skins and furs constitute important articles of commerce.—The north of Norway, and the adjacent part of Russia, are together called Lapland; it is inhabited by a thrifty short-statured race, called Lapps, whose chief source of wealth is the domesticated reindeer.

Chief Cities.

STOCKHOLM (205,129), the capital of Sweden, is built on a number of islands between Lake Maelar and the Baltic, and, by reason of its picturesque situation, presents a grand and imposing appearance. It has a magnificent royal palace, several fine museums and art galleries, and many excellent educational institutions. It has, also, many important manufactures, and exports largely timber, tar, iron, and copper. **GOTHENBURG** (81,203) has many manufactures, and a large foreign trade in farm and forest products, and in minerals. **UPSAL** (15,808) has an old and famous university.

CHRISTIANIA (130,027), the capital of Norway, is situated amidst the grandest Scandinavian scenery. It has important manufactures, and a large export trade in timber, iron, fish, matches, linens, and wood-pulp. **BERGEN** (43,026) has a large export trade in timber, iron, fish, oysters, lobsters, blubber, skins, moss, and feathers. **TRONDHEIM** (22,544) has a large ship-building trade, and is celebrated for its venerable cathedral. **HAMMERFEST** (1,547) is the northernmost town of Europe, and, strange though it seems, it enjoys so comparatively mild a temperature, that its fishery can be carried on all winter. Its exports are whale-oil, seal-oil, and fish-oil, furs and skins, walrus hides and teeth, copper, and feathers.

2. The Kingdom of Denmark.—Denmark is a small but very ancient kingdom, especially noted for the sturdy independence and vigorous national sentiment of its people. It consists of the peninsula of Jutland,

and the islands of Zealand, Funen, and Laaland, and of some smaller islands, with several foreign possessions. In surface, Denmark is flat, with few rivers, and no large lakes. Its climate, which resembles that of Scotland, is quite healthful; and its soil, on the whole, is very fertile. As a grain-growing and dairy country, Denmark ranks, proportionately, among the first in Europe. Its manufactures, however, are few, and it has no minerals.—The government of Denmark is well administered, and the people are prosperous. The interests of education are thoroughly well provided for. The established religion is the Lutheran Protestant; but all religions are tolerated.



LAPPS AND REINDEER.

To the Teacher.—The area of Denmark is 14,842 square miles, and its population about 2,035,000.—The foreign possessions of Denmark are not unimportant, and comprise:—The Faroe Islands (north from Scotland), with a population of about 12,000; Iceland, with a population of about 75,000; Greenland, with a population of about 10,000; and St. Croix, St. Thomas, and St. John, in the West Indies, with a population of about 38,000.—Teach from the map the relative positions of the various parts of the Danish kingdom, and the physical features of Denmark proper.—The coast of Denmark is generally low, with many sand ridges and shallow lagoons dangerous to navigation; especially is this true of the west coast. Another peculiarity of the shore-line is that it is much indented by "fjords," or long sea-inlets.—Although the surface of Denmark is low, it is sufficiently raised above the sea not to be swampy, or in danger of inundation, as Holland is.—In north Jutland there is much sandy heath-covered moorland; but even this is a good soil for buckwheat, which is largely grown. The islands and southern Jutland have soils well suited for

the raising of all sorts of farm produce, and these parts are well furnished with rich growths of fine beech.—North Jutland suffers in summer from cold, dry, north-west winds, and south-west Jutland from salt mists.—The thriftiness and contentment of the Danes are largely attributable to the fact that, as a rule, those who till the soil are the possessors of it.—The Danes are good sailors, and, while their fisheries are not sufficient to supply home consumption, their mercantile marine is comparatively large.—Although Denmark has no minerals, properly so-called, it is rich in porcelain and other clays; and one of the characteristic products of the country from time immemorial has been its amber, a fossilized gum, which is obtained from buried bituminous fossil trees on the Baltic coasts. (Amber is also obtained on the Prussian Baltic coasts.)—The Danish Government looks carefully after not only the secular education of the people, but also their religious training and health: certificates of baptism, confirmation, and vaccination, are required of every one before entering on service, apprenticeship, or matrimony.

Chief Cities.

COPENHAGEN (285,700), the capital, although occupying a low and unpicturesque site, is a very handsome city—many of its public buildings being of considerable elegance, and its squares

and public gardens being numerous and attractive. Copenhagen is justly celebrated as being a great literary, scientific, educational, and art centre: its famous university, its libraries, its museums, and its art galleries, are among the finest in Europe. Copenhagen is the great commercial and manufacturing centre of the kingdom. Its harbor is a fine one—large and safe—and capable of holding the whole Danish fleet, which is of considerable size. Of its manufactures, it is most celebrated for its porcelain, terra-cotta, and faience, these being of world-wide reputation. AARHUUS (24,831), in Jutland, and ODENSE (20,804), in Funen, are important seaports, and are the next largest towns.

3. The Kingdom of the Netherlands, or Holland.—Holland (which is the English name for the Kingdom of the Netherlands) is a part of the great European Lowland Plain; and so low is it, that a great portion of it, especially in its western and northern parts, is below the level of the sea, and is preserved from inundation only by enormous dykes, or embankments. It is not a fertile country, a large proportion of its soil being either sand or fen; nor does it possess a genial climate, being subject to strong winds and cold sea-mists, while its atmosphere is humid, and its sky, for the most part, overcast; yet such are the energy and industry of its inhabitants, that they have made their country one of the most productive in Europe—one that is especially noted for the excellence of its horses and cattle and other farm stock, for its garden produce—vegetables, flowers, and fruits—and for its butter and its cheese. Moreover, the Hollanders, or Dutch, as they are called, from the magnitude and the far-reaching extent of their commerce, are among the great trading nations of the world; and while in the amount of their manufactures they are not pre-eminent, such goods as they do make are noted everywhere for their excellence. The government is energetically and economically administered. Educational interests are exceedingly well provided for, and all religions are perfectly equal under the law. Holland maintains both an army and a navy, the latter of some merit. The foreign possessions of Holland are of considerable commercial importance.

To the Teacher.—The area of Holland is 12,680 square miles; its population is about 4,225,000. The foreign possessions comprise:—(1) the Dutch East Indies, including the island of Java, Sumatra, Celebes, Borneo (southern part), Sumbawa, Sandalwood, Timor (western part), and other smaller islands; and, in addition, the Moluccas, or the Spice Islands; (2) the western part of New Guinea; (3) Surinam, or Dutch Guiana; and (4) Curaçoa, St. Eustatius, and several other islands in the West Indies;—in all an area of about 765,000 square miles, with a population of about 28,610,000.—Teach from the map the boundaries of Holland proper, and the relative positions of its foreign possessions.—Teach also from the map the physical features of Holland:—The shore-line, by the action of the sea, has been subjected to many great changes; and, in order

that the country may be saved from inundation, the coasts are defended nearly everywhere by dykes, or by artificial dunes which assist in strengthening the natural dunes. Despite this care of the inhabitants, great inundations have taken place, some of which have been fearfully destructive of life and property. The great sea-inlet, the Zuyder Zee, and the Dollart, have both been conquered from the land. On the other hand, much land has been reclaimed from the sea, and kept drained and safe by huge engineering operations, as, for example, Haarlem Lake; the Zuyder Zee will soon be largely reclaimed also. The dykes are necessary not only along the shores of the sea, but inland as well; and also along the shores of the rivers, since these, if unrestrained, would almost constantly overflow their banks. Altogether, more than 1,550 miles of dykes have been built. Upon their tops, roads, and even canals, are constructed. Canals, indeed, are very numerous in Holland; in proportion to its size, no other country has so many. Some of them are great ship canals; others are used merely by barges; others again are small, and can be used only by boats, their principal service being to drain the fens. Canals are thus so numerous in Holland that they seem to take the place which roads hold in other countries. The rivers, too, are much like canals, being very slow of current; and as they divide into many branches before they enter the sea, they serve as an extension of the canal system.—The exhalations from so much stagnant water—in canals, in districts difficult to drain, and in fens—are very prejudicial to health; yet, owing to their careful and cleanly habits, the Hollanders are not more unhealthy than other people.—Holland is, in its west-central parts, very densely inhabited, and the kingdom has many large towns.—The Hollanders are largely engaged in sea-faring, and ship-building is their most characteristic manufacture. Their foreign trade is principally with their East Indian possessions, and with Great Britain, Germany, and the United States. The colonies send home cinnamon, pepper, and other spices, and coffee, sugar, indigo, and dye and cabinet woods, and these are again exported to other countries. Besides ships and boats, the manufactures are mainly cotton and woollen goods, velvets, glass and earthenware, gold and silver goods, leather, tobacco pipes, cigars, snuffs, and brandies and gins.—Owing to the absence of water-power, and the prevalence of strong winds, wind-mills are largely used in all sorts of work to furnish the motive power.—The inland trade of Holland is transacted largely by means of fairs, at which the producers sell directly to the shippers. Among the characteristic products of Holland are flower and garden seeds, gardeners' bulbs, chicory, honey, and druggists' herbs, which are all exported in large quantities.—The Holland fisheries, both deep-sea and inland (the latter in the Zuyder Zee and in the Friesland lakes), are of great importance.—Holland has no coal or other minerals, but is somewhat plentifully supplied with peat.—In religion, the northern, central, and western districts of Holland are principally Protestant; the south-eastern, principally Roman Catholic.

The Grand Duchy of Luxemburg (to the south-east of Belgium), which is an independent state of Europe, has the King of Holland for its Grand Duke; but there is no other political connection between the two states.

Chief Cities.

The HAGUE (134,552), the capital, is a handsome city. As in so many Dutch towns, canals traverse its principal streets; some of these are beautifully embordered with trees. AMSTERDAM (366,660) is one of the great commercial centres of the world. Its trade, both home and foreign, is immense, especially in characteristic Dutch products, such as butter, cheese, eggs, fish, bread-stuffs, gin, and seeds; and in Dutch colonial produce, such as spices, sugar, coffee, and dyestuffs. Its manufactures are also considerable, and include linens, silks, velvets, threads, chemicals, tobaccos, canvas, and cordage. The streets of Amsterdam are traversed by canals, and these are lined by quays, and thronged with ships from every country in the world. Amsterdam is connected with the North Sea by a great ship canal, by a smaller canal, and by the Zuyder Zee. ROTTERDAM (169,477) is very favorably situated for trade, both by sea and by canals. It exports in great quantities characteristic Dutch products, mainly to Great Britain, Germany,

and the United States. Its trade with the East Indies and with the West Indies is also very great. It is also noted for its breweries, distilleries, and dye-works. The "Great Church" of St. Laurens, in Rotterdam, has one of the finest organs in the world: it has 90 stops and 6,500 pipes. (The "Old Church," in Amsterdam, also has a very famous organ.) **UTRECHT** (69,221) is noted for its manufactures of silks and woollens, and especially for its velvets. It also has a large farm-produce trade. **LEYDEN** (41,241) is the seat of a university of great fame. (Amsterdam and Utrecht also have great universities.) **HAARLEM** (38,152) is celebrated for its organ, probably the finest in the world. It is also celebrated for its trade in flowers, flowering bulbs, and flower seeds.

4. The Kingdom of Belgium.—The Kingdom of Belgium, though one of the smallest states in Europe, is also one of the most prosperous. Its soil, in the west and north-west, is extremely fertile, the country being for the most part a well-watered, alluvial plain. In the south and south-east the soil is of far less richness, the country in these parts being much broken by low rocky hills and barren ravines; but the poverty of the soil is made up for by the richness of the mineral resources beneath it—coal and iron in especial plentifulness, also zinc, copper, lead, and marble.—The Belgians are exceedingly industrious. They cultivate their land with a care unequalled in the world, and with excellent results; but their methods of agriculture are antiquated. As manufacturers they rival the English and Scotch. Their foreign commerce is also very great, but the amount of their own shipping is inconsiderable. Their internal trade is very great, and their system of railways is one of the best in Europe. Their canals are numerous, also, and their few rivers are all navigable.—The Belgian government is an excellent one. The system of public education is very complete; but education is not compulsory, and, owing to the great demand for labor, children are often prevented by their parents from taking advantage of the educational facilities provided them. All religions are equal under the law; ministers of all denominations are paid by the state, but the great majority of the people are Roman Catholics.

To the Teacher.—The area of Belgium is 11,373 square miles, and the population about 5,725,000. Belgium is thus the most densely populated country in Europe, even more so than England.—Teach the boundaries and physical features from the map.—The north part of the Belgian coast is much like that of Holland, and the adjacent provinces have to be protected by dykes, as must also many districts adjoining the rivers.—The climate of Belgium resembles that of England, only it is a little colder in winter, and somewhat hotter in summer.—The people of Belgium are of two distinct races: in the north they are principally Flemings (that is, Dutch), a German race; in the south they are principally Walloons, a French race, speaking an ancient French dialect; but modern French is understood nearly everywhere,

and is the language of the upper classes, of the government, of the universities, and of literature.—In Belgium the land is divided up into very small farms, many of them being mere gardens, and it is largely held by those who till it. All farm and garden crops are plentifully grown, but flax is the characteristic Belgian product; beet-root for sugar-making is also extensively cultivated. The Belgian farmers are noted for their fine horses and cattle.—Belgium owes its manufacturing eminence to the fact that its coal and iron mines are near together: for the production of cutlery, and of nearly every other article of iron and steel, Belgium is a keen competitor with England. Of fabrics, linens are the chief productions, but cottons, woollens, and hempstuffs, are also largely produced and exported. So also are lace (of the most beautiful and expensive sorts), gloves, silks, ribbons, porcelain, and crystal ware. But the chief articles of export are coal, flax-yarn, wrought iron, and woollen yarn.—The Belgian national system of education includes not only primary schools, but secondary schools, universities, technical schools (manufacturing schools, farming schools, navigation schools, and so on), and schools for design, painting, sculpture, and music. The charitable institutions of Belgium are also very numerous, and very excellently managed.—Belgium is noted for its watering places: the most famous of these is Spa.

Chief Cities.

BRUSSELS (170,345; or, with suburbs, 403,369), the capital, is a closely-built city, picturesquely situated, with many fine ancient buildings, and many handsome modern ones, set off by many beautiful boulevards and ornamental fountains. It is especially remarkable for the number and excellence of its educational institutions, both literary and scientific, and for its learned societies, its academies of music and art, and its libraries and museums. It is also remarkable for its manufactures—fine linens, damasks, ribbons, gold and silver embroidery, jewellery, and mathematical and musical instruments—but especially for its famous lace, made in darkened rooms, from the finest flax (worth \$30 a lb.), and sold at \$40 to \$100 a single yard. **ANTWERP** (175,636), although on a river, is a great reexport, with a commerce extending to all the world. It has magnificent harbor and dock accommodations, but so great is its trade that these are always very much crowded with ships. It has also many manufactures, distilleries, and refineries. But Antwerp is more widely celebrated for its beautiful cathedral and church of St. James, and for its world-renowned picture gallery, which contains some of the most famous pictures in Europe. **GHEENT** (133,755), from the importance of its cotton manufactures, is called the "Belgian Manchester." It is the seat of a great university, and is well known for its remarkable "belfry." **LIÈGE** (126,233) is the "Birmingham of Belgium," especially noted for its manufactures of iron and steel—in particular, firearms. **BRUGES** (44,796) is famed for the number of bridges which cross its numerous canals. ("Bruges" means *Bridges*.) It is especially famous for its lace. It is also celebrated for its belfry or tower, which has the finest chimes in Europe.

There are many other towns of considerable importance in Belgium.

5. The Republic of Switzerland.—Switzerland is a confederation of twenty-two cantons, with a government somewhat similar to that of the United States. It is the most mountainous country in Europe: the Central Alps occupy its entire south-eastern half, and the Jura

a great portion of the remainder; but between these ranges, however, is a great plateau, with numerous valleys, kept perpetually fertile by the torrent streams that descend from the mountains. The pasture lands of Switzerland are unexcelled in Europe; and the chief occupations of the people are farming and pasturing—especially the latter. The cattle are driven up the mountain-sides in summer, where the butter and cheese are made, and are brought back to the valleys in winter. The cheese of Switzerland is held in great esteem. Some of the Swiss cantons, however, are famous for their manufactures—those in the west, for watches, jewellery, and musical instruments; and those in the north, for silks, linens, laces, and cottons.—The Swiss are noted for their spirit of personal independence; they have no landed aristocracy among them, and nearly every head of a family is the owner of the soil he tills and of the house he lives in. Education, in Switzerland, is more widely diffused among the people than in any other state in Europe, and the people are exceedingly intelligent. All religions are upon an equality under the law; the north-western cantons (which are the most populous) are almost entirely Protestant; the Alpine cantons are nearly altogether Roman Catholic.—Switzerland is noted for its magnificent scenery: its great snow-topped mountains, its huge and wonderful glaciers, its picturesque lakes, its beautiful valleys, together make such natural pictures as are to be seen nowhere else on the globe. From the number of tourists who visit it annually it is called the recreation-ground of Europe, and of the world.

To the Teacher.—The area of Switzerland is 15,981 square miles; its population about 2,900,000. Teach its boundaries from the map; also the courses of its principal rivers—the Emmen, the Reuss, the Aar, the Thur, and the Rhine, the Doubs, the Rhone, the Ticino, and the Inn. Notice how the mountains of Switzerland are the fountain reservoirs of many of the great rivers of Europe. Teach also the positions of the principal lakes—Maggiore, Lugano, Geneva, Thun, Brienz, Lucerne, Zurich, Constance, Neuchâtel, Blenue; most of these are very deep and rarely freeze, but are subject to fearful storms.—The Alps are the grandest mountains in Europe; their peaks range from 9,000 to 12,500 feet in height; among the more famous of them are Mont Blanc (just outside of Switzerland, the highest mountain in Europe), Great St. Bernard, the Matterhorn, the Jungfrau, the Wetterhorn, Mount St. Gothard (the central knot of the system), and Splügen.—Minerals are not abundant in Switzerland, but on the slopes of the mountains there is considerable forest land, which is very valuable both for the building material it furnishes and for fuel. In the mountainous districts, too, many wild animals are found: the chamois, the ibex, and the marmot, are the most characteristic. The lämmer-geler, one of the largest birds in the world, inhabits the highest peaks. The lakes abound in trout and other good fish.—Despite the mountainous character of the country, Switzerland has excellent roads, and is well supplied with railways, and all the larger lakes have steamboats for the convenience of tourists.—Visitors are attracted to Switzerland not by its scenery alone, but also by its mineral springs, which are very numerous and popular.—The climate of Switzerland

is marked by strong contrasts—long cold winters, hot summers, and sudden changes in temperature in all seasons; again, the climate varies with the elevation, so that the same canton may have districts presenting every sort of vegetation from tropical to arctic.—It is in the north and west that the country is most productive. The vine, and wheat, barley, oats, flax (a noted Swiss product), and hemp, are all grown, each at the altitude suited to it. Northern Switzerland is a good fruit-growing country, and cider and cherry-water (especially the latter) are favorite beverages of the Swiss.—The Swiss people are of several nationalities and speak different languages: a little less than three-fourths are German, and about one-fifth are French; the remainder are principally Italian. These various races are found in the districts adjacent to the parent nations.

Chief Cities.

BERN (44,087), the capital, is a handsomely built, characteristic Swiss town. Its educational institutions, especially its university, are in excellent repute. GENEVA (69,165) is especially noted for its manufacture of watches, jewellery, and musical boxes; it is also the seat of some famous educational institutions, especially theological schools. BASEL (61,399) is greatly noted for its manufacture of ribbons and other silk goods. Its university, its technical and other schools, and its fine old cathedral, are all famous. LAUNANNE (30,179) is a famous resort of English people, and has a fine cathedral. ZURICH (25,102), like most other cities in Switzerland, is famous for its educational institutions; it is also noted for its manufactures of silk and cotton.

6. The Kingdom of Spain.—Spain, from its compact shape, its length of sea coast, its position between the two most important bodies of water (that is, in a commercial sense) in the world, its general fertility of soil, its great variety of pastoral, agricultural, and horticultural products, its plentifulness of valuable minerals—all these without any serious natural drawbacks—ought to be one of the most prosperous of nations. But although it was at one time the chief power in Europe, with a foreign trade and with colonial possessions exceeding those of other nations, yet, after that time of pre-eminence, not only was it for many years completely unprogressive, but it even fast lost ground in commerce, in industrial pursuits, and in popular intelligence. This retrogression was due largely to bad laws and to bad governments; but of late years Spain has much improved: a good form of government has been established, some provision has been made for the education of the common people, and religious worship has been made free to everyone according to his own conscience; and as a result the people have become more enterprising: railways have been built, agriculture has improved, and commerce and manufactures have increased in importance;—but much yet remains to be done.

To the Teacher.—As part of the kingdom, are usually included:—Ceuta, opposite Gibraltar; the Balearic Islands, in the Mediterranean; and the Canary Islands, in the Atlantic—the area then being 196,173 square miles,

and the population about 17,250,000. The foreign possessions of Spain, though now but a mere fraction of what they once were, are still considerable:—in the West Indies, Cuba and Puerto Rico; in Asia, the Philippine Islands (area, 114,800 square miles; population, about 5,650,000); in the Pacific, the Mariana Islands, or the Ladrões; and in Africa, the islands of Fernando Po and Annobon, and a "protectorate" over a small part of the Sahara Coast.—Teach the positions of Spain and of its dependencies, from the map; also its physical features.—The physical features of Spain are so very marked that they greatly affect its climate and productions, and hence, the occupations of its people. In regard to its coast-line, Spain has few indentations: in the north, the coast is for the most part one long cliff, not destitute, however, of good harbors; elsewhere the coasts are generally low and sandy, but these also have a sufficiency of harbors.—Running across the country from east to west is a series of mountain chains, beginning with the snow-clad Pyrenees and Cantabrian Mountains, and ending with the Sierra de Nevada (the latter, next to the Alps, being the highest in Europe). Between these ranges is a series of large rivers, for the most part rapid and unnavigable.—The whole of the central part of Spain is a plateau region, from 2,000 to 3,000 feet high—the highest in Europe—broken, however, by the mountain ranges, and threaded by the great rivers and their tributaries. This plateau has a severe climate—cold in winter, and hot and dry in summer. Southern and eastern Spain have warm winters, and summers of tropical temperature. Northern Spain has long winters and much rain in spring and autumn. But despite these extremes of climate, Spain is, as a rule, very productive, except in some of the arid districts of the centre. Northern Spain abounds in rich pasturage and in forests of oak and chestnut (from the nut of the chestnut a flour is ground, which is largely used for food), and produces freely grains of all sorts, and the apple and the grape. Central Spain, in its more fertile parts, produces abundantly grain and wine, while everywhere the pasturing of sheep is a profitable occupation. Southern Spain has a very fertile soil, and is supplied with water by irrigation; and, in return for careful cultivation, yields abundantly the finest grapes, the orange, the lemon, the almond, the fig, the olive, the pomegranate, the banana, and the date, besides sugar, cotton, and rice (the last, indeed, is a chief article of export): the wines of this district (as for example, sherry, from Xeres), and the grapes (as for example, those from Malaga) are very famous. The cork-tree is also a source of great profit in southern Spain.—In agriculture the Spaniards are very backward, though their domestic animals are noted for excellence: their cattle are of good quality; their sheep are mostly of the famous merino breed, whose wool is so valued for its length and fineness; their mules and asses are noted for their size and strength; and their horses (in southern Spain) are much celebrated.—Wild animals abound in the mountains: the chamois and the ibex in the Pyrenees; and there and elsewhere, the bear, the wolf, the marten, the lynx, and the fox.—The minerals of Spain are of great value: lead is found more plentifully in Spain than in any other country in Europe, and quicksilver is almost equally abundant. Coal and iron are also abundant, but are little mined. Tin, copper, zinc, antimony, and salt, are also common; and marbles, alabasters, and kaolins, of the very best quality, are exceedingly plentiful.—The manufactures of Spain, once so celebrated, are much declined, and many are in the hands of the government (in many of the larger towns are great royal tobacco and cigar factories); but private capital, however, is once more becoming enterprising. The foreign commerce of Spain is considerable, but it is largely carried in outside shipping. The interior commerce of Spain has greatly suffered for lack of good roads: nearly everything has had to be transported on mules (the canals, though numerous and large, have been allowed to go to ruin), but railways are now doing much to improve internal trade.—The Spaniards are, too many of them, of very idle habits, and fond of brutal sport: bull-fighting during all the summer months is a chief delight of the people in the capital, and in many of the other larger cities. The Spanish nobility is very numerous, but very poor; in fact, the whole kingdom has much decayed: many of the towns of Spain were once treble and quadruple their present size.—The Roman Catholic is the established religion, and nearly all the people are of that faith.—The government maintains a considerable army and a considerable navy.—Besides the true Spaniards, there are three other remarkable races inhabiting the country: The Basques, in the extreme north; the Moriscos, or Moors, in the south; and the Gypsies.—Spain boasts a great antiquity, and many of its towns are very ancient, and have interesting ruins.

Chief Cities.

MADRID (508,405), the capital, is situated in the midst of a great infertile plain, and has few natural advantages for commerce or manufactures, although it is the centre of the railway system of the kingdom. It is noteworthy to foreigners principally for its picture gallery, one of the very finest in the world. Its royal palace, also, is noted—being one of the most magnificent in Europe. Of late years Madrid, like other Spanish cities, has made great improvement in educational matters, and its facilities for instruction (both primary and advanced), its libraries, and its museums, are now excellent.—Not far from Madrid is the ESCURIAL—a palace, church, and monastery, in one immense pile—built in a style so large and grand as to be called the "eighth wonder of the world." BARCELONA (249,106) is the principal manufacturing town in the kingdom, and has considerable coasting trade. VALENCIA (143,856) is celebrated for its silk and velvet manufactures, and its exports of rice, silk, almonds, raisins, and oranges. SEVILLE (133,938) is noted for the magnificent paintings to be seen in its cathedral, and for its ancient Moorish palace, the Alcazar. Its exports are principally oranges and olive-oil. Near Seville are the remains of a magnificent Roman amphitheatre. MALAGA (115,882) has a large export trade in wines, olive-oil, figs, almonds, raisins, grapes, oranges, and lemons; also in lead. GRANADA (76,108) is of world-wide fame for its palace of the Alhambra (in its interior one of the most beautiful buildings in the world), which was built by the Moors when they had dominion in Spain. CADIZ (65,028) is noted for its export of sherry wine.

7. The Kingdom of Portugal.—Portugal, like Spain, has had a glorious past; but from the high place it once held among the nations of the world it is now far fallen. In its favorable position for maritime commerce, in its mineral resources, in its valuable forests, its agreeable climate, its fertile soil, and the variety and usefulness of its natural products, it has all the material elements of prosperity; but bad laws and bad governments, numerous wars and revolutions, and the indifference of the higher classes to the education of the common people, have resulted in the great degradation of this once powerful nation. Yet, in Portugal, as in Spain, matters are now improving: the government is being more wisely administered, peace is maintained, and the education of the people is receiving more attention; and, as a consequence, Portugal is once more becoming prosperous.

To the Teacher.—The area of Portugal is 34,606 square miles; its population, about 4,310,000. As integral parts of the kingdom are included:—the Azores, in the Atlantic, and the Madeira Islands, off the north-west of Africa, with an area of 1,237 square miles and a population of about 400,000.—The foreign possessions of Portugal, though far less than what they were, are still numerous and important:—In Africa, the Cape Verde Islands, Portuguese Guinea in Senegambia, part of Dahomey, the island of St. Thomas, Prince's Island, the Kingdom of Angola (from the mouth of the Congo to Cape Frio),

and Sofala and Mozambique (these, on the east coast); in India, Goa, and some other small territories; in China, Macao (at the mouth of the Canton River); and in the East Indies, part of Timor—in all about 205,000 square miles, with a population of 2,500,000.—Teach the boundaries of Portugal and its physical features from the map; also the position of its foreign dependencies.—The physical features of Portugal resemble those of Spain, for there is no natural division between the two countries. The Spanish mountain ranges are continued into Portugal, but terminate before they reach the Atlantic; the great Spanish plateau subsides near the boundary line, so that Portugal is for the most part made up of mountain and valley, with a low flat region along the coast. The rivers of the peninsula reach the level of the sea soon after entering the Portuguese territory, so that in Portugal they are generally navigable; but, unlike the northern nations of Europe, Portugal has not done anything to improve its facilities for internal navigation.—The mineral resources of Portugal are much the same as those of Spain, with the difference that Portugal has no quicksilver, but has some gold; its rock-salt is much valued for its hardness, and is exported to England for salting meat for ships' use.—The climate of Portugal is much less subject to extremes than that of Spain, but of course varies with the elevation and the distance from the sea. Rain falls abundantly, especially on the coast, but snow is rare except on the mountains.—All the useful grains, grasses, and roots of the temperate zone grow on the highlands; but Portuguese agriculture is in a wretched state, and not enough food material is produced to support the people. As in Spain, however, the domestic animals are of a superior quality. Goats and pigs are raised in great numbers and at little cost in the mountains, which are largely covered with forests of oak or of chestnut, and goat-skins and pork are exported. Chestnuts are much used as food, and also form an important article of export. In the warm lowlands every sort of southern fruit is grown, as in maritime Spain; but the cultivation of the grape and the olive is the main industry of the people. From the grape is made the celebrated port wine, which constitutes indeed the chief article of export from the kingdom. The mulberry tree is largely cultivated for the production of silk cocoons, and bees are kept in great numbers. In the south the cork oak (from the bark of which the cork of commerce is obtained) grows naturally in great abundance, and cork is, after wine, one of the most valuable of Portuguese exports.—In the south are important tunny and anchovy fisheries.—The manufactures of Portugal, though long decayed, are now reviving; domestic manufacture, however, supplies most of the articles of prime necessity to families. Ship-building is an important industry, and the Portuguese are successful navigators.—The established religion is the Roman Catholic, and nearly all the people are of that faith; but Protestant worship is allowed in some of the larger towns. Facilities for the education of the wealthy are, in Portugal, as in most other European states, ample enough; and facilities for the education of the poorer people are now being improved and extended, though the number of primary schools is still too few for the needs of the population.—In race the Portuguese are allied to the Spanish, and their language is akin to the Spanish language; but they entertain for the Spanish an aversion amounting to hatred.

LISBON (253,496), the capital, has a fine foreign trade, not only in the products of Portugal, but also in those of Spain, with which it is connected by railway—principally in wine, olive-oil, southern fruits, cork, and salt. It has also some manufactures. Its aqueduct, by which pure water is brought into the city, is one of the finest in the world. Lisbon has suffered much from earthquakes. OPORTO (108,346) is the chief manufacturing city in Portugal, but it is most noted for its export of "port" wine, the name being derived from its own. It also has exports of oil, sumach, lemons, oranges, kermes (insects used for dyeing, found on the "kermes" oak), wool, salt, and cream of tartar.

8. The Kingdom of Greece.—Greece is one of the most ancient and most famous countries in the world; but for centuries its inhabitants were under the

dominion of foreigners, and it was only in 1832 that they again became independent, and that the present Kingdom of Greece was established. The country is very mountainous, but its narrow alluvial valleys and plains are capable of producing grain and southern fruits in abundance; the soil, however, is not well cultivated, for Greek agriculture is of the most primitive sort. Moreover, the government is very deeply in debt (owing to the expenses incurred by the nation in obtaining its independence), and is forced to levy heavy taxes upon the people, and these are unwisely made to fall most heavily on the farmers, who thus become discouraged and unenterprising. It follows that the produce of the soil is far short of what it might be. Again, good roads are almost entirely wanting, and, as a consequence, the resources of the mines and of the forests (both very valuable) are not at all taken advantage of. But the people are frugal and industrious, fond of knowledge and exceedingly quick at learning, and agriculture and all other industries are improving; seafaring, however, is, and has for a long time been, their favorite occupation.—Greece has an excellent system of education.—The Orthodox Greek Church is the established religion, and nearly all the inhabitants are of that faith; but all religions are tolerated.

To the Teacher.—Greece includes: (1) the mainland peninsular part, of which the southern portion (below the Gulf of Lepanto) is called the Morea; (2) the island Eubœa; (3) the Ionian Islands (Corfu, Cephalonia, Zante, etc.); and (4) the Cyclades. The area is 24,977 square miles, and the population about 2,000,000.—Teach the boundaries and the relative positions of the constituent parts of Greece from the map.—Greece is very much indented by bays and gulfs, and it possesses proportionately more sea-coast than any other European state, and from this fact, and because so large a portion of its territory is insular, the Greeks are naturally a maritime people, being bred to the sea from childhood.—The climate of Greece is exceedingly healthy, except in some inclosed marshy districts, where malaria prevails. The summers are somewhat hotter, the winters somewhat colder, than in maritime Spain, the natural products being similar.—The atmosphere of Greece is in general of exquisite clearness, and this adds much to the charm of the scenery, which is in itself of almost perfect beauty.—The mineral resources of Greece are considerable: copper is abundant, and lead is obtained (by an English company) in great quantities from ancient and long disused mines. Marbles are extremely abundant; they are also far famed for their great beauty, and are much used for statuary, especially those of Mount Pentelicus, and of the island Paros.—Wild animals abound, especially in the forest mountain districts, and game is plentiful,—a large portion of Greece is still unoccupied by man. From the forest oaks of the interior are obtained the insect kermes, and valonia (the cups of the tannin acorn, used in dyeing and in tanning).—The most noted produce of Greece is the currant—the fruit of the currant-grape, which grows nowhere else in the world. The olive and the mulberry tree are also much cultivated. Wine-grapes, figs, apricots, oranges, lemons, pomegranates, grow abundantly, and in some parts are much cared for. The cultivation of tobacco and cotton is encouraged by the government. Manufactures are being established—as yet ship-building is that of most importance.—Greece is rapidly gaining ground, and were its government once free from debt, it would soon take a place among the most prosperous of nations. The

Greeks are temperate and pure of life, thrifty, brave, and ambitious to excel. They are also exceedingly independent—even to vanity.

Chief Cities.

ATHENS (84,903), the capital, is, to the historian, the scholar, and the artist, one of the most interesting cities in the world, for it may be said that there civil liberty, learning, and artistic taste, had their birth. Perhaps its most interesting feature is the Acropolis—a hill about which the city is built—its ancient citadel, once strongly fortified, surmounted even now by the celebrated Parthenon, a temple of pure white marble, one of the oldest buildings in the world. Many other remains of ancient Greek art are found in Athens, and also in other places in Greece. — Modern Athens is growing rapidly. It is the chief seat of manufactures and of commerce in the kingdom; and its educational institutions are of high rank and are much resorted to by foreigners.—Four miles from Athens, and connected with it by railway, is **PIRÆUS**, its seaport. — Other modern Greek cities are:—**PATRAS** (25,494) and **ZANTE** (17,516), noted for their export of currants; **SYRA** (20,996), a noted steamship calling-place, with exports of sponges; and **CORFU** (16,515), famous for its oranges and olives.

9. The Empire of Turkey.—Turkey, or the Ottoman Empire, was formerly one of the great powers of Europe. It comprised many peoples of widely differing races and religions, not only in Europe, but also in Asia and Africa; but among them all the Osman Turk race and the Mohammedan religion were dominant. For some time past, however, its power has gradually decayed, and not long ago it lost much of its territory, especially in Europe. Throughout the Turkish Empire the Sultan, or emperor, is the supreme source of law and authority; but his acts are considerably influenced by tradition and custom. Turkey is hopelessly in debt, and the affairs of its government are in great confusion. Taxation is most oppressive, and greatly hinders enterprise and progress. Agriculture and all manufactures are carried on in the most primitive ways. Yet, notwith-

standing its bad government and the backwardness of its industries, such is the natural fertility of Turkey-in-Europe that it ranks as one of the most productive countries on the globe. The established religion is Mohammedanism, and the Sultan is the supreme head of the faith throughout the empire; but all other religions are freely tolerated. Public education, as might be supposed, is in a deplorable condition; but it is no longer unattended to, especially in the capital.



A MOHAMMEDAN MOSQUE.

To the Teacher.—Before the Treaty of Berlin, in 1878, European Turkey, in addition to its present territory, comprised the states now known as the Kingdom of Roumania and the Kingdom of Servia (formerly principalities tributary to Turkey), and the Principality of Bulgaria, besides Eastern Roumelia (which is now joined with Bulgaria), Bosnia and Herzegovina (now military provinces of Austria-Hungary), the island of Cyprus (now a protectorate of Great Britain), and some territory by the treaty ceded to Russia and Greece. —The area of European Turkey is now 60,500 square miles, and its population is about 4,700,000. — Asiatic Turkey comprises Asia Minor, Syria (including Palestine), part of Armenia and Kurdistan, Mesopotamia, and those parts of Arabia bordering on the Red Sea and the northern half of the Persian Gulf—in all, 680,000 square miles, with a population of about 16,400,000. In Africa, Turkey rules Tripoli, Barca, and Fezzan—about 400,000 square miles, with a population of about 1,000,000. Turkey also obtains a tribute from Egypt and from Cyprus, and claims tribute from Bulgaria and Eastern Roumelia. —Teach the relative positions of the different parts of the Ottoman Empire from the map; also the boundaries and physical features of European Turkey. —Turkey-in-Europe is, for the most part, a hilly

and undulating country—but with several distinct mountain chains, the principal being the Pindus range and the Balkans. It has numerous rivers, and its river valleys are exceedingly fertile. The climate, on the whole, is genial and equable, though it is hot in summer. Much of Turkey is yet covered with forests, or otherwise in a state of nature. Wild animals abound—the wolf, the bear, the boar, the stag, and the chamois. Agriculture is prosecuted in the rudest manner. Ordinary grains and roots grow in the more elevated regions; cotton, rice, and maize, in the lower parts. In the maritime plains thrive the olive, the orange, the raisin-grape, the peach, and the prune-plum.—The valley of the Maritza is noted for its roses, from the blossoms of which the famed attar-of-roses is obtained.—The pasturing of sheep and goats is a prevalent occupation. Among the other domestic animals is the buffalo, used both as a beast of draught and of burden.—The manufactures of Turkey, though carried on in a primitive fashion, are many of them of great excellence, though all are principally for home use; however, shawls, fine silks, carpets, rugs, morocco leather, red cottons, prune brandy, and swords, are exported. Other exports are boxwood, gall-nuts, and valonia, chamois-skins and goat-skins, goats' hair, wool, sponges (obtained among the islands of the Egean), madder, wax, meerschaum clay, cherry-stems for pipes, and leeches

(obtained from maritime marshes).—Turkey has mines of iron in abundance, and of lead, salt, and marble; but none of these are worked.—The people of Turkey-in-Europe, as now constituted, are principally Osman Turks, and are of the Mohammedan faith; but south-western Turkey is inhabited mainly by Albanians, of whom many belong to the Greek Church.—Turkish commerce is almost entirely in the hands of Greeks, Armenians, or Jews.

Chief Cities.

CONSTANTINOPLE (871,561), the capital, was, under its founder, Constantine the Great, the capital of the world. For several centuries back it has been the chief centre of the great Mohammedan religion and of Mohammedan power. Though it has suffered terribly from numerous sieges, much of its former splendor still remains—principally in Mohammedan mosques, once Christian churches; of these is the celebrated Mosque of St. Sophia, famous for its splendid interior. The city has a most picturesque situation—like Rome, it is built on seven hills; and its appearance, when approached by sea, is most magnificent—the gilded towers, minarets, and cupolas of its numerous mosques and palaces, showing resplendent in the sun; but its streets are narrow, crooked, and dirty, and many of its houses are poor and mean.—The manufactures of Constantinople and its suburbs are considerable. Its foreign trade is very great, but little of it is in the hands of Turks. Its exports consist of characteristic Turkish products and manufactures, produce from Black Sea ports, and Asiatic goods of every description brought by caravans to Scutari, on the opposite shore of the Bosphorus. ADRIANOPLE (150,000) is famous for its carpets and rugs, and its attar-of-roses, rose-water, and opium. It is also famous for its mosque—the finest Mohammedan temple in the world. SALONICA (80,000?) exports largely raw silk and sponges, and is famous for its numerous Roman antiquities.

10. The Kingdoms of Roumania and Servia, and the Principalities of Bulgaria and Montenegro.—Roumania, Servia, Bulgaria, and Montenegro, were all, not long ago, parts of Turkey. As their inhabitants were alien to the Turks, both in race and religion, they strove for independence, and have become independent states. These countries include some of the best parts of Europe, and are naturally very productive;

moreover, they abound in forest and mineral wealth; their resources, however, are as yet far from being fully developed. The rearing of cattle, sheep, and horses, with some agriculture rudely carried on, is the principal occupation of the people.



CONSTANTINOPLE.

To the Teacher.—Teach the relative positions, boundaries, and the more prominent physical features of these countries, from the map.—ROUMANIA (area, 46,314 square miles; population, about 5,400,000) consists principally of a great plain (called the Wallachian Plain) stretching from the Carpathians to the Pruth and the Danube. The climate, especially in the south, is extreme; very cold in winter, very hot in summer. But the soil is exceedingly fertile. There is an abundance of magnificent pasture, and great numbers of cattle, sheep, and horses, are reared. Wheat and maize are grown in the north; olives and tobacco in the south. Bee-keeping is an important industry.—Along the Danube great swamps extend, and these abound in water-fowl.—Minerals and precious stones are abundant, but no mines are worked.—The people are not Slavonic—they are of the Latin race, and their language is a modernized Latin; but they are members of the Greek Orthodox Church.—Public schools are numerous; education is both free and compulsory. Roumanian literature is rich in folk-lore and popular songs.—BUCHAREST (221,805), the capital, has a large trade in grain, timber, wool, hides, and wax.

SERVIA (area, 18,757 square miles; population, about 1,900,000) is a mountainous country, covered largely with valuable forests; but it has also numerous valleys which might produce abundantly nearly all the useful sorts of grains, roots, and fruits. Little land, however, is cultivated; millions of hogs are fed on the acorns of the forests, and these form the principal export. Other exports are goat-skins, leeches, and valonia. Agriculture and all other industries are in a very backward state.—Copper and silver are abundant, but are not mined.—The people are Slavonic in race, and belong to the Orthodox Greek Church; they are distinguished for their valor.—Education is backward, but is making rapid progress. BELGRADE (35,471), the capital, a very strongly fortified place, has many manufactures and an excellent trade.

BULGARIA (area, 24,700 square miles; population, about 2,000,000), though nominally independent, is tributary to Turkey, and much interfered with by Russia. It is a mountainous country in the south, but level in the north, and has much valuable forest land, and much excellent pasture. The rearing of live-stock is the principal industry, but grain, hemp, and flax, are cultivated. Among its exports are timber, cattle, wool, hides, skins, wax, and attar-of-roses. The Bulgarians are a distant branch of the great Slavonic race, and are members of the Orthodox Greek Church, though many of the inhabitants are of other races and faiths. They are industrious, hospitable, and moral.—SOFIA (20,500) is the capital.—EASTERN ROUMELIA (area, 13,862 square miles; population, about 1,000,000) is inhabited principally by Bulgarians, and has effected a sort of union with Bulgaria. PHILIPPOPOLIS (33,142) is the capital.

MONTENEGRO (area, 3,486 square miles; population, about 250,000) is a mountainous, forest-covered country, inhabited by people of Slavonic race and of the Greek Orthodox faith. CETINJE (1,400) is the capital.

LESSON XLII.

ASIA.

1. Extent and Population.—Asia is the largest of the continents: it contains one-third of the land surface of the globe. And although great parts of it are very thinly populated, other parts, especially in the south and south-east, are very densely populated, and its entire population is perhaps not less than one-half that of the whole earth.

To the Teacher.—Statistics in reference to Asia (outside of the British possessions) are only approximate estimates.—The length of the continent, from the Dardanelles to Behring's Strait, is about 7,500 miles. The entire area is about 17,000,000 square miles. The population is thought to be about 820,000,000; but this is probably too high an estimate.—Let the pupils make comparisons of the area and population of Asia with the areas and populations of Europe and the two Americas.

2. Boundaries and Subdivisions.

To the Teacher.—These should be taught thoroughly from the map.—With respect to the islands of the Malay Archipelago, there is some difficulty in determining which shall be considered as belonging to Asia, and which as belonging to Australasia. Modern geographers have agreed, however, in considering an imaginary line through the Strait of Macassar (known as Wallace's line) a natural demarcation.—With respect to subdivisions, it should be said that political subdivisions are continually changing, and territorial, or geographical subdivisions, are in some cases better known. The following may be used:—1. **RUSSIA-IN-ASIA** (area, 6,238,312 square miles; population, 14,550,000), comprising (1) Trans-Caucasia; (2) Trans-Caspiana; (3) Russian Turkestan, or Central Asia; (4) Siberia. (NOTE.—Independent Turkestan, comprising the khanates of Khiva and Bokhara, may now be considered as part of Russian Turkestan, for though nominally independent, it is really subject to Russian authority.) 2. **THE CHINESE EMPIRE** (area, 4,553,000 square miles; population, 334,700,000), comprising (1) China Proper (including the islands of Hainan and Formosa), (area, 1,554,000 square miles; population, 300,000,000); (2) Manchuria; (3) Corea (only nominally subject to China); (4) Mongolia; (5) Eastern Turkestan; (6) Tibet. 3. **THE INDO-CHINESE PENINSULA**, comprising (1) Anam, a French protectorate; (2) French Possessions, including Tongking, Cambodia, and Cochin China; (3) Siam; (4) Burmah (in part a British possession, in part a British protectorate). 4. **THE MALAY PENINSULA**, comprising (1) Malacca, and other British possessions and protectorates; (2) some independent states. 5. **THE PENINSULA OF HINDOOSTAN**, comprising (1) British India (which also includes Burmah) (area, 1,513,044 square miles; population—including Burmah—257,400,000); (2) the independent states of Nepal and Bhotan. 6. **THE ISLAND OF CEYLON**. 7. **AFGHANISTAN AND BELOOCHISTAN** (which, though nominally independent, are preserved in their independence and subsidized by the government of British India). 8. **PERFIA**. 9. **THE PENINSULA OF ARABIA**, comprising (1) Oman (in the south-east); (2) Nejd (the middle parts); (3) Aden (a British possession); (4) Turkish Arabia (the entire eastern coast of the Red Sea—Hedjaz, Yemen, etc.—and part of the western coast of the Persian Gulf); (5) small independent states. 10. **TURKEY-IN-ASIA**, comprising (in addition to Turkish Arabia) (1) Syria (including Palestine); (2) the Euphrates-Tigris valley; (3) Turkish Armenia; (4) Asia Minor. 11. **THE EMPIRE OF JAPAN**. 12. **THE MALAY ARCHIPELAGO** (in part) comprising Sumatra, Java, Borneo, the Philippine Islands, and other smaller islands. (NOTE.—These are principally Dutch and Spanish possessions. See under "Great Britain," "The Netherlands," and "Spain.")

3. Physical Features.

To the Teacher.—These should all be taught from the map. The coast is less sinuous than that of Europe, but yet is much indented. The principal peninsulas are—Yamal (between Kara Sea and the Gulf of Ob), Kamchatka,

Corée, the Indo-Chinese peninsula, the Malay peninsula, Hindoostan, Oman, Arabia, Asia Minor.—The coast waters (in addition to the three oceans) are:—Kara Sea, Behring Strait, Behring Sea, Sea of Okhotsk, Tartary Channel, Japan Sea, Corea Strait, Yellow Sea, Gulf of Pechelus, Eastern Sea, Formosa Strait, Hainan Strait, Gulf of Tongking, China Sea, Gulf of Siam, Strait of Malacca, Bay of Bengal, Gulf of Martabaz, Palk Strait, Gulf of Manar, Arabian Sea, Gulf of Cambay, Gulf of Cutch, Gulf of Oman, Strait of Ormus, Persian Gulf, Gulf of Aden, Strait of Bab-el-Mandeb, Red Sea, Mediterranean Sea, the Dardanelles, Sea of Marmora, the Bosphorus, the Black Sea, and the Caspian Sea; also Celebes Sea, Strait of Macassar, Java Sea, and Sunda Strait.—The principal islands are:—The New Siberia Islands, Wrangel Island, Saghalien, the Kurile Islands (belonging to Japan), the Japan Islands, the Loo-choo or Liu-kiu Islands (belonging to Japan), Formosa, Hong-kong, Hainan, the Philippine Islands, the Great Sunda Islands (Borneo, Java, Sumatra, etc.), Singapore, the Nicobar Islands, the Andaman Islands, Ceylon, the Maldive and Laccadive Islands, Cutch (part of the year only a peninsula), Cyprus, and Rhodes and other islands of the Aegean Sea.—The few important capes may be learned from the map.

The physical features of the interior of Asia are exceedingly intricate, and they should be taught only in the barest outline.—The great width of Asia, stretching from far within the frigid zone almost to the equator, occasions a great variety of climate, ranging from the severest arctic to the fiercest tropical; but even more than by distance from the equator is the climate of the various parts of the continent influenced by such conditions as elevation above the sea level, the constancy of oceanic winds, and especially by the proximity of great mountain masses; and no simple description of these matters is possible.—The great range of the Himalayas—the highest mountains in the world (one of them, Mount Everest, being over 29,000 feet high), whose peaks are everywhere covered with snow—and their connected ranges westward, are the most important of the features influencing the climate of Asia. These mountains oppose a barrier to the warm vapor-charged winds of the south, and in consequence the countries north of them are more or less cold and rainless. Thibet, north of the Himalayas, is almost completely rainless. Thibet, moreover, is a plateau, the highest in the world (15,000 feet), and its great elevation increases the rigor of its climate, so that while it is insupportably hot and dry in summer, it is exceedingly cold in winter. Hence the country is very poor, the chief portion of it being little better than a desert. Vegetation is everywhere scanty—scarcely a tree is to be found. In the lower and warmer valleys the people are settled and follow agriculture, but in the higher regions they are nomadic pasturers of flocks and herds.

Westward of Thibet stretches another great plateau, which, though not so high as Thibet, is yet everywhere of considerable height, comprising Afghanistan, Beloochistan, Persia, Armenia, and Asia Minor. Its southern boundary begins with the Suliman range, running south-westward, then skirts the Arabian Sea, the Persian Gulf, and the Euphrates-Tigris valley, and, finally, as the Taurus Mountains, runs parallel with the northern shore of the Mediterranean to the Aegean Sea. Its northern boundary is formed by what may be called a westward continuation of the Himalayas—the Hindoo-Koosh, the Elburz range, Mount Ararat, and the mountains to the north of Asia Minor. The eastern half of this plateau, comprising Afghanistan, Beloochistan, and Persia, is poor and unproductive. The climate is severe in winter, and extremely hot in summer, and the rainfall is very scanty. The population is sparse, for the most part nomadic, and addicted to plunder. It is only in the valleys, or where irrigation can be employed, that the people follow settled occupations. The western part of the plateau enjoys a less hot and arid climate, its productiveness is greater, and its people are more settled and more generally disposed to fall in with the progress of civilization.

To the east of Thibet, and separated from it by ranges of high mountains, is China Proper, which lower ranges of mountains traverse from east to west, giving rise to numerous large rivers (the Hoang-ho, the Yang-tse-kiang, the Canton, and others). China is a fertile, well-wooded country, with a sufficient rainfall; and it is everywhere thickly populated with an industrious, settled people. Its hot summers and cold winters do not interfere with the natural productivity of its soil, and this is cultivated with the greatest care.

The high mountain ranges at the eastern edge of the Thibet plateau, with other ranges from China, run down into the Indo-Chinese peninsula, and form basins for the great rivers of the peninsula, the Mekong, the Meinam,



the Salween, and the Irawady. Indo-China is a well-wooded, fertile country, inhabited by settled populations; its climate is hot and moist—in the south so much so as to be unfit for Europeans.

The peninsula of Hindostan, from its connection with the British Empire, and also on account of its great natural capabilities, is the part of Asia most interesting for study. The great snow-clad masses of the Himalayas intercept the warm, vapor-charged winds which blow from the south almost six months in the year, and convert their vapor into rain. This rain, descending from the mountains down to the Great Plain of Northern India (which stretches from the mouth of the Indus to the mouths of the Ganges and the Brahmapootra), perpetually renews its surface soil with fine alluvium, so fine indeed that scarcely a pebble is to be found in all this vast area. Moreover, this area enjoys a good rainfall of its own (except in its western portion, which is consequently desert, and known as the Great Indian Desert), and hence it is extremely fertile. Its climate, while favorable to certain products, is too much subject to extreme heat and drought to support pasturage. But the soil is everywhere highly cultivated by a settled population, who live entirely by agriculture or by manufacture and commerce, and are among the most highly civilized people of Asia. Northern India, and especially north-eastern India, is one of the most densely populated districts in the world.—South of the Great Northern Plain is the plateau district of India (usually known as the Deccan), triangular in shape, occupying the whole southern portion of the peninsula. This southern plateau is flanked on its western side by a high range of mountains, known as the Western Ghats, and on its eastern side by a lower range, known as the Eastern Ghats; in consequence its rivers all flow eastward. On its northern side it is also bounded by mountains. Its rainfall is rather slight, its climate dry, and consequently its forests are scrubby and open,—not dense and luxuriant, as in the Indo-Chinese peninsula—and cultivation of the soil succeeds only with the aid of irrigation. On the low coast regions, however, the rainfall is heavy, the climate warm and moist, and the vegetation dense and tropical.

The peninsula of Arabia is an elevated table-land, bordered by low mountain ranges, barren towards the coasts (except in Oman), but occasionally very fertile in inner valleys, especially in the south-west. Immediately within the mountains is a continuous ring of sterile desert (broadest in the south and east, where it expands into a huge waste of burning sand), and within this ring is a series of valleys and table-lands, the former rich in field and garden produce, the latter in pasturage.—In Syria, the physical features are similar. In its western part there is a double mountain range, through the middle of

which is the famous valley of the Jordan and Dead Sea; in this region the climate is dry and hot, and only where irrigation can be made use of, or on seaward slopes of the mountains (especially of Mount Lebanon), is the cultivation of the soil profitable. To the east is the Syrian Desert, a barren plateau; but to the east again are the far-famed plains of Mesopotamia, or the Euphrates-Tigris valley, well watered, and suited both for agriculture and for pasturage.—The whole Syria-Arabian area (except near towns where trade is established, or in the more fertile tracts where agriculture is possible) is

inhabited by nomadic tribes, under petty chiefs, whose sole occupations are pasturing and plundering.

The high table-land where the Himalayas (in their western extremity, north of the Indus, called the Karakoram range) and the Hindoo-Koosh Mountains meet, is called Pamir, which may be considered the central mountain-knot of Asia. Extending eastward from it is the Kuen-lun range, which forms the northern boundary of the Thibet plateau. Extending north-eastward is the Thian-shan range. The plateau between these ranges is Eastern Turkestan. In its western part it contains the principal cultivated districts of Central Asia; but its eastern part is a rainless desert. This desert area, with its bounding mountains, is continued in a north-easterly direction, under the name of the Desert of Gobi, as far as the Khin-gan Mountains.—Again, north of the Pamir knot, are the Alatau ranges, running westward, and separating the basins of the Sea of Aral (a salt lake) and its influents (the Oxus, or Amoo Daria, and the Sihon, or Syr Daria) from the Lake Balkash basin. Another, much more important, range, the Altai, branches off irregularly north-eastward from the Thian-shan, and, running eastward, forms the northern boundary of Mongolia. Mongolia is thus included between the Altai, the Thian-shan, and the Khin-gan ranges. Eastern Mongolia (except in the north, where there is some rainfall, and agriculture is somewhat possible) is mainly conterminous with the Gobi Desert; and Western Mongolia is little better than a desert, its climate being severe, with extremes of heat and cold, and its rainfall scant, while its people are a nomad race, pasturing herds of cattle, sheep, horses, and camels, and being among the most cruel and least civilized of human beings.

Eastward from Pamir, and north of the Persian plateau, is a nearly desert low-lying plain, which extends northward across the Aral basin, includes the Kirghiz Steppes, and terminates at the height of land which forms the south-western boundary of Siberia. In this tract, which includes Bokhara, Khiva, and Russian Turkestan, the rainfall is everywhere insufficient for agriculture, which is impossible except with the aid of irrigation; the climate is extreme at all seasons; and the fixed population is very



BOLAN PASS.

The lofty Suliman range would oppose a complete barrier between India and Afghanistan and Beloochistan, were it not for its remarkable "passes," of which Khyber Pass and Bolan Pass, called the "gate-ways of India," are the most used. The famous Bolan Pass ascends to a height of one mile above the sea level. It is 60 miles long, and its walls are perpendicular cliffs, often 600 feet high. In this narrow defile a small regiment could easily withstand an army.

desert low-lying plain, which extends northward across the Aral basin, includes the Kirghiz Steppes, and terminates at the height of land which forms the south-western boundary of Siberia. In this tract, which includes Bokhara, Khiva, and Russian Turkestan, the rainfall is everywhere insufficient for agriculture, which is impossible except with the aid of irrigation; the climate is extreme at all seasons; and the fixed population is very

small, the greater number of the inhabitants being nomad tribes, whose principal occupation is the plundering of trade caravans.

North of Russian Turkestan, the Altai Mountains, and the Amoor River, is Siberia, a territory almost as large as the whole of Europe. It is for the most part a low-lying diluvial plain with a slope towards the Arctic Ocean, but in the east it rises into hills, and finally into mountains (the Stanovoi range). In rainfall it is not deficient, but its extremes of heat and cold are very great. Its whole northern portion is a vast tundra—in summer a mossy swamp, in winter a frozen waste. Farther south its plains are covered with grass and shrubs, and its mountain-sides are covered with forests of pine. The middle basin of the Obi is its most fertile portion. Its aboriginal inhabitants are nomadic Mongols, of peaceful character, but in a very backward state of civilization. The towns are made up entirely of Russian settlers.—Siberia is drained by some of the largest rivers in the world—the Obi, the Yenisei, and the Lena.—The two most important lakes of Asia are in Siberia—Lake Balkash, and Lake Baikal.

The islands which lie to the east of Asia, on the curved line which may be drawn from Kamtschatka to Sumatra, are, almost all, of volcanic origin, and in many of them volcanoes are now in constant activity. In consequence they are rugged and mountainous, but many of their valleys are among the most fertile parts of the world. Earthquakes are not uncommon in these regions, and are sometimes frightfully destructive of life. It is thought that there are no volcanoes on the continent itself.

4. Vegetation.—The vast extent of Asia, its differing climates, and especially the fact that it is divided into so many distinct parts by almost impassable mountain ranges, are all causes for an immense variety in its vegetation. The great low plain of Siberia, which slopes toward the Arctic Ocean, and is separated for the most part by high mountains or vast plateaus from the warm winds of the south, has in its northern parts only an inferior form of vegetable life, the moss of the tundras; farther south, willows, beeches, larches, and pines are found; and still farther south, besides the ordinary grains of temperate regions, it produces a luxuriant summer growth of garden plants.—South of the Altai mountains, so dry is the climate, and so largely is the soil either a hard stony desert, or a desert of salty sand, that vegetation is very sparse and stunted. On mountain-sides, however, and in valleys, pasturage can be found; and this determines the occupation of the people,—principally the rearing of herds of cattle, sheep, and horses, which they drive from pasture-ground to pasture-ground, as fancy or necessity may require. Barley and some other grains can be raised in the less arid parts, but so wandering are the habits of the people, that little attention is given to agriculture.—Farther south, in Eastern Turkestan, although a large portion of the country is little else than a great sandy desert, the plains at the bases of the mountains can be made fertile by irrigation, and thus supply pasture for horses, camels, yaks, and sheep; and some of the warmer mountain-sides and valleys, being favored with a sufficient rainfall, support not only the

grains and fruits of temperate regions, but also some of the characteristic products of the south, such as the rice plant, the mulberry tree, and the cotton plant.—Farther south, again, in Thibet, which is almost one vast plateau—the highest and driest in the world, exceedingly cold in winter and very hot in summer—it is only in the few valleys where irrigation can be employed that the soil can be used for agriculture; on the uplands, almost the only vegetation that exists are poor and scanty patches of pasture, with a few larches and birches.—But once across the Himalayas a great change occurs. India is a land of almost unsurpassed fertility, and it is most industriously cultivated; and so varied is its climate, that almost every vegetable product that may be used for the food or clothing of man, or that may form an article of trade between nations, abounds in some part or other of its wonderfully productive territory.

To the Teacher.—The following notes may be used if necessary:—Southern Siberia is largely covered with forests; it has also numerous fertile river valleys, capable of producing crops of grain and useful roots.—The Tobolsk Plain is a very fertile area and a great grain-growing district.—The salt-impregnated or stony plains of the large district surrounding the Sea of Aral, support little else than a tall coarse grass, on which the wandering tribes of the region pasture their flocks and herds.

China Proper is one of the most fertile countries of the world, and probably nowhere else is agriculture held in such high esteem. Its range of vegetable productions is almost as great as that of India. In the north abound all the more useful vegetable products of the temperate zone—wheat, barley, oats, millet, maize, pears, plums, apples, apricots, persimmons, rhubarb, tobacco, and so on; in the middle and southern parts are equally abundant those products which require a more constant warmth—the tea plant, the mulberry tree, the cotton plant, the opium poppy, rice, arrow-root, the sugar-cane, oranges, plantains, ginger, the cinnamon tree, the camphor tree, the cocoanut palm, and the betel nut.—For its production of tea and of raw silk China excels all other countries in the world.—Rice is produced in enormous quantities, and forms the staple food of the people.—In the middle and southern parts of China the bamboo grows almost everywhere, and, being put to an infinite variety of uses, it is perhaps the most valuable of all the vegetable products of the country.—The camphor tree is found principally in the island of Formosa.

The hot moist climate of the Indo-Chinese peninsula produces a luxuriant vegetation, including forests of the valuable teak-wood and of bamboo; and among the natural and cultivated products are the banana, the guava, the orange, the citron, the sugar-cane, the cocoanut; besides rice (which is the chief product of the country), cinnamon (of excellent quality), cotton, and pepper. But the climate, in a large part of the peninsula, is so unhealthy that Europeans dare not live in it, and agricultural progress is very slow.

The vegetable products of the vast peninsula of Hindostan resemble those of China, but the range is greater. On the mountain-slopes of the north are huge forests of magnolias, firs, evergreen oaks, and yews. In the north-west great areas are given to the production of wheat, barley, and maize—harvest-time being in the spring. On the warm hill-slopes of the north-east the tea plant is cultivated with great success, and it also grows wild in these parts as a tree. In the valley of the Ganges, and also in Burmah (which is geographically connected with Hindostan), rice is the staple product. In the central provinces cotton is the staple product. Opium is also grown largely in these two last districts. The low coast-lands of southern India have, from time immemorial, been noted for their rich rice-harvests and for their magnificent fruit-

bearing palms; while upon the warm, dry highlands of the interior, coffee is grown, and also cotton. Jute, which, next to cotton, is the most valuable fibre crop of India, is confined to the north-east. Millet is grown in almost all India, and forms the chief food of the people, except in rice-growing districts. Tobacco is also grown everywhere. Indigo (once the most important product of the country) is still largely cultivated in the north and east. Of useful trees, the most important are:—the cedar, of the north; the bamboo (in reality a tree-like plant), found everywhere; and teak, sandal-wood, satin-wood, and iron-wood, found in the south. Among other trees are the well-known banyan (one celebrated specimen is supposed to be over 2,500 years old, and is known to have sheltered at once no fewer than 7,000 men), the mango (one of the most common trees in India, prized both for its fruit and for its grateful shade), the tamarind, and many sorts of palms. In addition, India produces in great abundance fruits of almost every variety, but especially what are known as "southern fruits"—the delicious mangosteen, the mango (spoken of above), and the tamarind, the plantain, the pineapple, the pomegranate, the guava, the jack, the papaw, the cocoanut, the betel nut, and many varieties of figs, oranges, limes, citrons, and melons; also spices of many sorts, including tumeric and chillies (used in the preparation of the well-known Indian curry), mustard, ginger, coriander, cummin, aniseed, and pepper (on the Malabar coast); also sugar, cinchona (or Peruvian bark—much used for the relief of fevers—lately introduced), the mulberry tree (for the support of the silk-worm), oil-seeds in great variety, and medicinal plants of almost every necessary sort; while resins, gums, and lac (used in making shellac varnish), are gathered in the forests.—No mere enumeration can give any adequate idea of the variety, richness, and usefulness of Indian vegetation.

Of Afghanistan and Beloochistan little is known. Their surface is so rugged and elevated, and either so stony or so sandy, that useful vegetation is found only in oases or in river valleys. In favorable places, however, the vegetation is varied and valuable, and resembles that of India, including, in the warmer parts, dates (to the cultivation of which great attention is paid), pomegranates, plantains, guavas, pistachio nuts, and oranges; cotton, tobacco, indigo (of superior quality), roses, aromatic herbs, and *asafoetida*; and, in the less warm districts, all sorts of grains, and apples, pears, plums, currants, and quinces. The pastures of Afghanistan, though scanty, support numerous droves of magnificent horses; also camels of excellent breed, and the famous black sheep from which *astrakan* is obtained.

In Persia, three-fourths of the country, comprising most of the middle and eastern area, is a sandy or saline desert, supporting only a sparse and valueless vegetation; but other parts, especially its mountain-slopes and valleys, are of the greatest fertility.—On the Elburz seaward slopes are magnificent forests of oak, beech, elm, walnut, cypress, box, and cedar; while in the mountain valleys, wherever irrigation can be employed, wheat (the best in the world), barley, and other cereals, are abundantly produced.—Southern Persia is especially adapted to the growth of cotton; also of rice (which is largely produced), and tobacco and opium. Vines are extensively cultivated, and Persian wines are famous. The mulberry tree is also largely cultivated, the Persian silk product being very important; and nearly all fruits, both of temperate and tropical regions, abound.

In Arabia, much of the surface has a soil too parched and niggard, too flinty or sandy, to produce other vegetation than prickly herbs and shrubs. But in the south-west and south-east, and in the interior, are considerable areas which are very productive if attentively irrigated. The date is the characteristic product of Arabia, and (either fresh or stewed with butter) the chief food of its people. Coffee, however, is the vegetable product for which Arabia is most noted: it is almost exclusively produced in the upland districts of the south-west. Vines are numerous and productive, but the grapes are never pressed for wine. Peaches, apricots, and pomegranates, are grown in the highlands. Senna and other medicinal herbs, frankincense, and gum-arabic, are also characteristic products of the country. Garden fruits and vegetables are easily grown, but of agriculture or horticulture the Arabians know little.

Syria (including Palestine) in its vegetation resembles Arabia. It is only on the coast mountain-slopes, or where irrigation can be used, that cultivation of the soil is profitable. Wheat and maize (which are harvested in May), and rice, the olive, the fig, the date-palm, the orange, the banana, and the mulberry tree, are the principal products; but the cotton plant, the sugar-cane, and the indigo plant, are also cultivated in districts suited to their growth.

In Asia Minor, the high sterile plains of the interior plateau region, cold in winter and exceedingly hot in summer, support a vegetation little other than a poor sort of pasture for sheep. But the seaward mountain-slopes of the south are, in the uplands, clothed with forests of oak and pine, and, lower down, with groves of walnut and wild olive, and with vineyards and tobacco fields; while the valleys and plains still lower down are made beautiful by the *valonia* oak, the plane tree, the cypress tree, the pomegranate, the manna-ash, and the bay tree; and figs, olives, lemons, oranges, maize, cotton, and capsicum, are cultivated.—On the Black Sea coast the mountain-sides are dense with forests of oak, chestnut, beech, box, and other



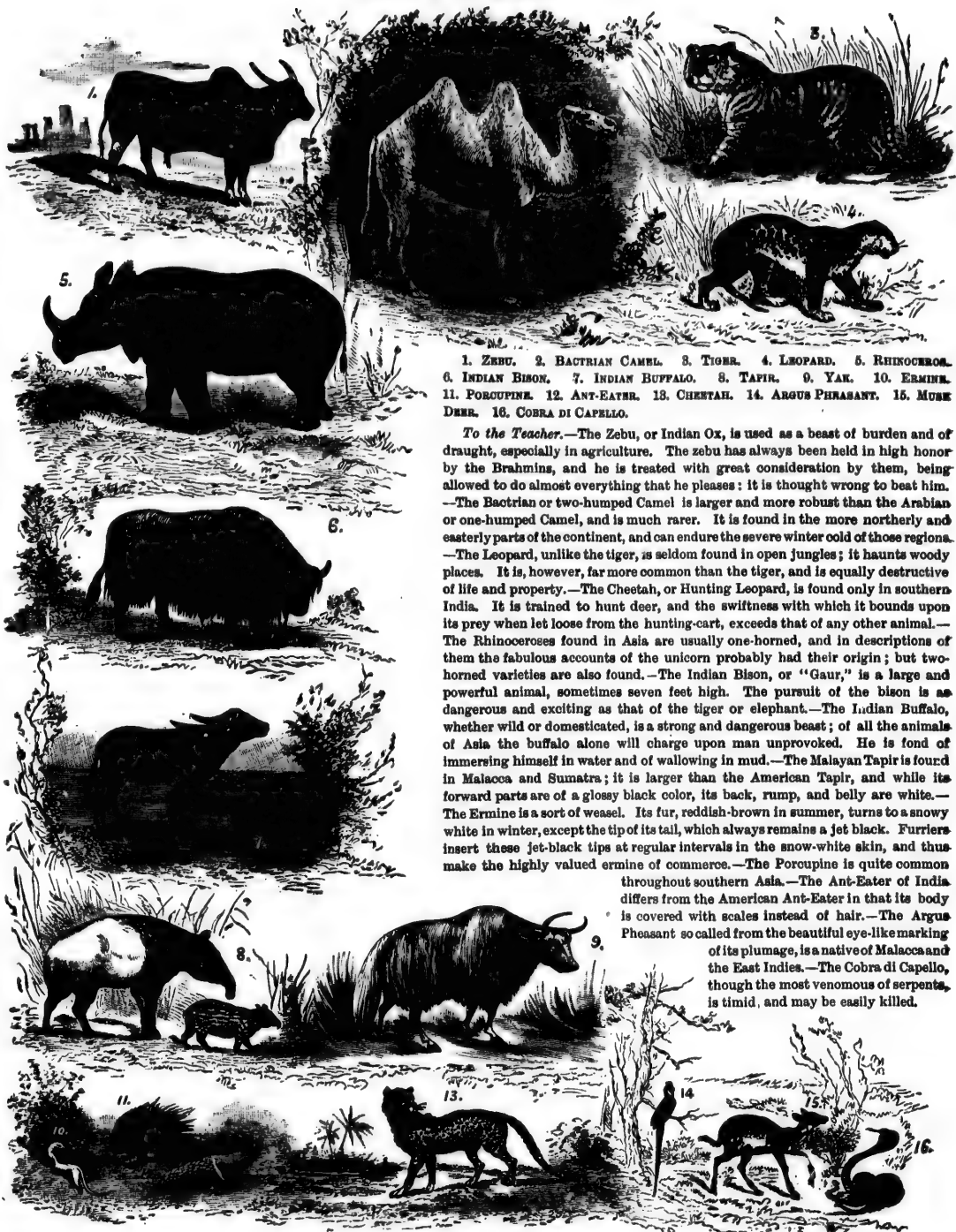
TEA CULTURE.

JAPANESE TEMPLE.

trees; while the lower hills and valleys below, especially to the eastward, are a region of the greatest fertility and natural beauty. This is, indeed, the native land of many of our finest fruits—the cherry, the apricot, and so on; and apple, pear, and plum trees grow wild everywhere, and are also cultivated with great success. Moreover, the landscape is everywhere adorned with rhododendrons, azaleas, myrtles, and other flowering shrubs.—The warm and genial river valleys of the western coast are very productive, especially of raisins, mulberry plants, cotton, opium, madder, and saffron.

Japan covers too wide a latitude to be dealt with summarily, but generally speaking, although its surface is much varied (being the result of volcanic action), its soil is very productive, and its climate, though very changeable and extreme in both summer and winter, is favorable to vegetation. Of the main portion of Japan it may be said that the whole country is covered with a luxuriant vegetation. Tropical products and those of temperate regions are found in near proximity, owing partly to frequent abrupt variations in altitude. Rice is the most widely cultivated product, and the chief food of the people. Tea is also widely cultivated, and is a main article of export. The camphor tree of Japan is greatly valued, both for its gum and its wood. The production of vegetable wax from the berries of the wax tree is an important industry. The sumach or varnish tree is cultivated very largely, and is of the greatest value, since from it is obtained a juice from which the celebrated Japan lacquer is made. From a sort of mulberry, called the paper tree, a pulp is obtained from

Animals of Asia.



1. ZEBU. 2. BACTRIAN CAMEL. 3. TIGER. 4. LEOPARD. 5. RHINOCEROS.
6. INDIAN BISON. 7. INDIAN BUFFALO. 8. TAPIR. 9. YAK. 10. ERMINE.
11. PORCUPINE. 12. ANT-EATER. 13. CHEETAH. 14. ARGUS PHEASANT. 15. MONGOOSE.
16. COBRA DI CAPELLO.

To the Teacher.—The Zebu, or Indian Ox, is used as a beast of burden and of draught, especially in agriculture. The zebu has always been held in high honor by the Brahmins, and he is treated with great consideration by them, being allowed to do almost everything that he pleases: it is thought wrong to beat him. —The Bactrian or two-humped Camel is larger and more robust than the Arabian or one-humped Camel, and is much rarer. It is found in the more northerly and easterly parts of the continent, and can endure the severe winter cold of those regions. —The Leopard, unlike the tiger, is seldom found in open jungles; it haunts woody places. It is, however, far more common than the tiger, and is equally destructive of life and property. —The Cheetah, or Hunting Leopard, is found only in southern India. It is trained to hunt deer, and the swiftness with which it bounds upon its prey when let loose from the hunting-cart, exceeds that of any other animal. —The Rhinoceroses found in Asia are usually one-horned, and in descriptions of them the fabulous accounts of the unicorn probably had their origin; but two-horned varieties are also found. —The Indian Bison, or "Gaur," is a large and powerful animal, sometimes seven feet high. The pursuit of the bison is as dangerous and exciting as that of the tiger or elephant. —The Indian Buffalo, whether wild or domesticated, is a strong and dangerous beast; of all the animals of Asia the buffalo alone will charge upon man unprovoked. He is fond of immersing himself in water and of wallowing in mud. —The Malayan Tapir is found in Malacca and Sumatra; it is larger than the American Tapir, and while its forward parts are of a glossy black color, its back, rump, and belly are white. —The Ermine is a sort of weasel. Its fur, reddish-brown in summer, turns to a snowy white in winter, except the tip of its tail, which always remains a jet black. Furriers insert these jet-black tips at regular intervals in the snow-white skin, and thus make the highly valued ermine of commerce. —The Porcupine is quite common throughout southern Asia. —The Ant-Eater of India differs from the American Ant-Eater in that its body is covered with scales instead of hair. —The Argus Pheasant so called from the beautiful eye-like marking of its plumage, is a native of Malacca and the East Indies. —The Cobra di Capello, though the most venomous of serpents, is timid, and may be easily killed.

which paper is manufactured. Silk culture is also an important industry, the mulberry tree thriving in eastern Japan. The bamboo-cane is found everywhere in central Japan, and is put to almost innumerable uses. The sago-palm is also found. Indigo and opium are important products, and the cotton tree thrives. All European fruits (both northern and southern fruits) are found in Japan, but they are not of such excellence as those grown in Europe. The forests of Japan are magnificent and valuable; among the more common trees are the cedar, the pine, the maple, and the evergreen-oak.—In the northern island (Yezo) wheat and barley are grown.

The Malay Archipelago, especially in its south-western and north-eastern divisions, has the most remarkable vegetation in the world. A soil of extreme richness, and a climate of great warmth and humidity, unite in producing a flora unexcelled for luxuriance. Among the more prominent products are:—rice (which is the staple food of the people), coffee (especially in Java—Java coffee being highly esteemed all the world over), sugar, tea, tobacco, coconuts, bananas, and cotton; while from the forests (which are crowded with palm trees and with creeping and hanging plants of the utmost luxuriance) are obtained the most valuable woods, such as teak, ebony, and sandalwood.—The central parts of this region are of world-wide fame for their spices—cinnamon, cassia, cloves, nutmegs, and pepper. In these parts sago is the staple food of the people. The forests are not so luxuriant as those in the south-west and north-east, but they abound in the famous ironwood, in the gutta-percha tree, and in the camphor tree.—In addition, throughout the whole archipelago nearly every sort of tropical fruit can be obtained by cultivation.

5 Animal Life.—In respect of its animal life, Asia may be divided into three regions: (1) that part of the continent lying to the north of the great Himalaya range, in which the animals very much resemble those found in Europe; (2) the southern and south-eastern parts, or the Indian region, characterized by the tiger, the leopard, the cheetah or hunting leopard, the elephant, the rhinoceros, the tapir, the bison, the buffalo, the monkey, the cobra di capello, the crocodile, the pheasant, and the parrot; and (3) the south-western part, or the Arabian region, characterized by the lion, the hyena, the jerboa, the ostrich, and the scorpion.—The domestic animals of Asia include not only the horse, the ox, the sheep, the goat, the mule, and the dog; but also the reindeer, in the northern parts of Siberia; the yak, in Thibet and other highlands of Central Asia; the buffalo, in north-eastern India; the elephant, in Hindostan and the Indo-Chinese peninsula; and the camel, in

Arabia especially; but also in all the sandy and sterile parts of Asia generally.

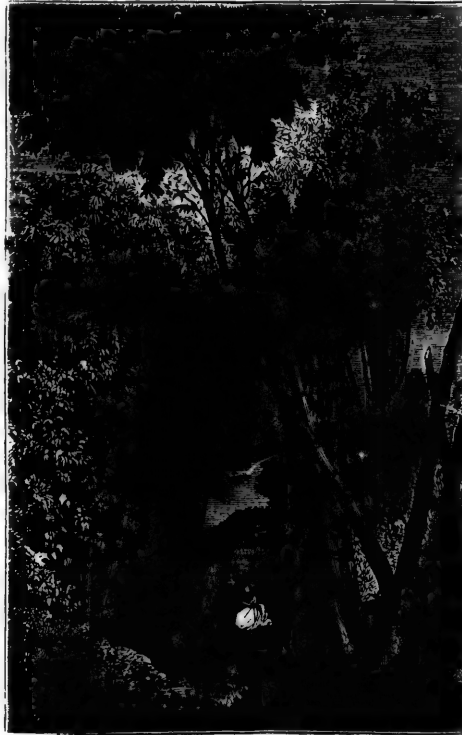
To the Teacher.—In Siberia are found the white bear and the arctic fox, in the north; and the sable, the ermine, and the wild sheep, in the south; the wolf, the lynx, and the wild boar, are generally diffused. The reindeer is the chief article of wealth to the northern tribes, and dogs are there used to draw sledges. Albatrosses are found on the shores of Kamtschatka. A sort of elephant, known as the mammoth, once abounded in Siberia, and fossil ivory, obtained from its tusks, is a considerable article of export.—In northern Mantchooria, bears, wolves, and foxes are common; but this country is most noted for the abundance of salmon in its rivers and streams: they are so

numerous that frequently great numbers of them are squeezed out upon the banks and so perish.—In Central Asia, in the more fertile mountain districts and valleys, are many varieties of wild sheep, besides antelopes and deer; among the latter is the musk-deer, so well known for the perfume which is obtained from it.—In the high cold mountain districts, the yak (a species of ox) forms the chief wealth of the inhabitants. It is one of the most useful of animals. It is used as a beast of burden, though not of draught. Its flesh is of the finest quality, and its milk yields excellent butter. Its whole body, especially its tail, is covered with long fine hair, which may be spun into ropes and cords, or woven into cloth.

In China Proper, it is only in the rougher interior parts that wild animals are found. This country, however, is noted for the great variety and plentifulness of its fish, and fish form a very considerable part of the food of the people. Sharks are numerous on the coasts, and sharks' fins are esteemed a delicacy. The beautiful little goldfish was first found in China. China is also noted for its beautiful pheasants, and for its numerous water-fowl (some of these latter are trained to catch fish for their owners); also for its tortoises and turtles.—The silk-worm has been associated with China for ages; and the little wax insect that obtains the wax (highly prized for candles) from the Chinese wax tree (a sort of sumach) is also of great importance.

In India, and the Indo-Chinese peninsula, the lion was once common, but he is now found only in the sandy deserts of the north-west of the Hindostan peninsula; wolves, hyenas, jackals, and wild dogs,

abound in the open country. Bears are numerous in India, especially the sun-bear of the Himalayas, the sloth-bear, and the large Burmah bear. The tiger is not usually a dangerous animal if unmolested, but when once he has tasted human blood he becomes a terrible scourge, a "man-eater," and is much feared by the natives. Elephants, once so numerous, are now found only in hilly and inaccessible districts: in British India they have become a government monopoly. Other wild animals in this region are—the wild hog (well known from the favorite Indian sport of "pig-sticking"), the wild ass, and wild sheep, wild goats, antelopes, tree-rats, and field-mice (these last very troublesome).—Of birds, besides parrots, there are eagles, falcons, water-fowl of many kinds, game-birds of many sorts, and the red jungle-fowl, supposed to be the ancestor of our domestic poultry.—Poisonous snakes are very numerous, and occasion many deaths annually. The immense python, which is found in the Indo-Chinese peninsula, though it sometimes attacks deer, and even large



BAMBOO GROVE.

animals, is really beneficial, in that it eats myriads of rats, especially the intolerable musk-rat.—Fishes of many sorts swarm in Indian waters, and are much used as food; but they are generally of inferior quality. A remarkable variety is the climbing or walking fish (a species of perch—edible), which is able to breathe when out of water, and can propel itself over dry land, and can even climb trees.—A sort of dolphin, an immense creature, sooty-black in color, with very small eyes and ears, is found in the Ganges.—Of insects, noxious sorts are incredibly numerous, and locusts are sometimes great plagues. The lac insect is very useful, since it furnishes the resinous tincture (which it secretes from various jungle trees) from which are manufactured shellac and other varnishes, sealing-wax, and lac-dye.

In the south-western division of Asia, which includes Beloochistan, southern Persia, and southern Arabia, the more common animals are—hyenas, jackals, small monkeys, the panther, the jerboa, and the gazelle; and (of birds) eagles, vultures, partridges and other game-birds, and peacocks. The most remarkable bird is the ostrich, which, while running, cannot be overtaken by the swiftest Arabian horses. Scorpions, locusts, and poisonous spiders, are exceedingly plentiful: the locusts often commit great ravages upon crops, but the Arabians retaliate by eating them as food. There are no fleas or bugs in any part of Arabia.—All the coasts of this part of Asia swarm with fish, and fish are much eaten as food. (The people of the coasts of Beloochistan have from time immemorial been called "fish-eaters.") But the art of salting fish is not known in any part of southern Asia.

The animal life of Japan is similar to that of China.—The animal life of the Malay Archipelago resembles that of India. Perhaps the greatest differences are, that the elephant is not naturally found in the Archipelago, and that the Archipelago has several sorts of apes not found in India, especially the orang-outang, and the gibbon.

The great pearl fisheries of southern Asia deserve especial mention. The pearl-oysters are found principally off the north-west coast of the island of Ceylon, and off the south-west coasts of the Persian Gulf.

Of domestic animals, the horse is found in all Asia except the very hottest parts, and the very coldest parts; he is little used, however, as a beast of draught or a beast of burden, but principally in war or for parade: in agriculture he is scarcely employed; ploughing is effected (when performed at all) by the ox, or (as in some parts of India and the Indo-Chinese peninsula) by the buffalo. The horse is supposed to be a native of Arabia, and Arabian horses surpass the best of all other countries, not in size or in speed, but in perfection of form, and in speed coupled with endurance. The Persian horse is also much esteemed.—The camel is the most valuable of Asiatic domestic animals; he is used both for riding and as a beast of burden—in Arabia, where he is found in most perfection, and throughout all the drier and warmer parts of Asia generally. The camel can live on the driest and most inedible vegetation, and his ability to do without water for days together (for ten days in winter, and six in summer) is unequalled among animals. Nearly all the internal commerce of Asia is transacted by means of caravans, or camel-trains.—In Thibet, both the mule and the goat are used as beasts of burden.

6. Minerals.

To the Teacher.—Of the mineral wealth of Asia little is known except in regard to some parts of it. The Aspheron peninsula, in Trans-Caucasian Russia, is saturated with petroleum. The middle-eastern slopes of the Ural Mountains

in Siberia abound in gold, platinum, iron, and copper; and precious stones are also found there; these and other minerals are also found in southern Siberia. The Government of Russia forces many of its convicted criminals and political offenders to work in the Siberian mines.—China Proper, in respect of minerals, is extremely well favored. In the north-east, almost at the surface, are coal-beds of exceeding richness, perhaps the richest in the world; and its stores of iron are almost equally great. In the south-west are the richest deposits of quicksilver known in the world. The Chinese are skilful miners and metal-workers.—Indo-China, in its mountainous parts, has rich stores of metals; also of precious stones (sapphires, rubies, amethysts, topazes). Amber and fine statuary marble are also among its mineral treasures. Petroleum is exceedingly abundant, and in some parts is much used by the inhabitants for lighting purposes; it is dipped up from the wells in pails, like water. The natives are excellent metal-workers; the making of their celebrated tom-toms (or drums) is still a secret to Europeans.—The Malacca peninsula is noted for its exceedingly rich stores of tin.—India

has been greatly celebrated for its precious stones, especially for its diamonds, but diamond-hunting has now become an insignificant industry. There is a great abundance of coal in the north-east, but, though much

used, it contains a large proportion of ash. The iron-ore of India is noted for its purity, and it is found in every part of the country. Salt (which is a necessity to the Hindoo—since he abhors flesh) is obtained principally from sea-water by evaporation, but also in salt quarries in the north-east. Saltpetre (for making gunpowder) is largely exported. Gold, copper, and lead, are also worked.—The mineral resources of all south-western Asia, from India to the Red Sea, though once believed to be enormously rich, are, as far as now known (with the exception of salt), of inconsiderable value: Persia has mines of lead, sulphur, and coal; but Arabia has little else than lead and some of the more common kinds of precious stones.—Asia Minor has rich mines of iron, salt, and fine marble (all, in ancient times, much worked), and also of coal; but these now are all neglected.

—In the volcanic islands of the east, minerals are everywhere plentiful: Japan abounds in copper especially, and in gold, silver, iron, and marble; while in the Malay Archipelago—in Borneo and Sumatra precious stones are found, in Sumatra lead is found, and in Banca tin is very abundant.

7. People, Languages, Manners and Customs, and Religion.—The people of Asia are of many races, and these races differ much from one another, not only in origin, and in the languages which they now speak, but also in dress, manners and customs, and religion. In all these respects, too, they differ from Europeans, and from the people of the United States and Canada. The Japanese, however, are adopting the ideas and customs of European and American civilization. The people of India are also making some progress in the same direction, owing to the influence of the English



who live among them. But among other Asiatic peoples there is to be found—in agriculture, in manufactures, in government, in religion, and in all habits and customs, both public and private—little similarity to European and American ideas.

To the Teacher.—It is impossible to convey in a general description any adequate conception of the domestic or public life of the Asiatics. This must be done by allowing the pupils to read to one another in class interesting sketches of travel which they themselves may have met with (or in default of this, which the teacher himself has helped them to find). This work should be pursued systematically, country by country.—The following notes will be of service:—By far the larger part of Asia is occupied by the Mongolian races. These have yellow-brown skins, black eyes and hair, flat noses, and oblique eyes, and are short of stature, with little hair on the body and face. These races extend over the whole of northern Asia, as far south as the Caspian Sea and the Hindoo-Koosh and the Himalaya Mountains, including China; and also over the Indo-Chinese peninsula and most of the islands of the Asiatic part of the Malay Archipelago. The Mongolian races of the north are nomadic in their habits and are very peaceful. Those of the central parts, called Turks, Moguls, Mongols proper, and Mantchoos, are collectively known as Tartars. The Turks are Mohammedans: they occupy the Kirghis steppes of Siberia, and the great plains about the Caspian and Aral and north of the Hindoo-Koosh; and they have diffused themselves through a large part of western Asia and given their language to the peoples among whom they have settled. The Moguls are those Mohammedans of India who came originally from central Asia. The Mongols proper, who occupy the whole of Mongolia, eastern Turkestan, and Tibet, are Buddhists in religion (Tibet being the great seat of Buddhism), and everywhere, except in the few towns, are nomads of predatory habits. The Mantchoos, once very powerful (the reigning dynasty in China are Mantchoos), are now mostly confined to Mantchooria; they are Buddhists in religion.—The Chinese Mongolians (of China Proper) are a thoroughly settled people of agriculturists, artisans, and traders. Buddhism and Taoism are the prevalent religions among them, but these are professed only by the lower classes; the educated classes are followers of Confucius. Their language consists entirely of monosyllables, and their written and printed symbols represent not letters, but complete words.—The inhabitants of the Indo-Chinese peninsula resemble the Chinese in manners and customs; and in religion they are for the most part Buddhists.—The Mongolians of Malacca and the Malay Archipelago are frequently spoken of as a distinct race, and called Malays. The principal physical characteristics of the Malays are an olive-yellow complexion, black, slightly oblique eyes, a small but not flat nose, and black lank hair.

The aboriginal inhabitants of northern India are of a race called the Aryan. (NOTE.—The Greco-Latin, the Celtic, the Teutonic, and the Slavonic peoples of Europe, all belong to the Aryan race. Hence all these, and the Aryans of India, are frequently spoken of as Indo-Europeans; but the Aryans of India are darker than the races of southern Europe, and these again are darker than those of northern Europe.) In the central and southern parts of India are many non-Aryan races: of these the Dravidians (chocolate-brown in color, and akin to the aborigines of Australia) are the most numerous. The Aryans of India speak languages resembling the ancient Sanscrit, and their religion is principally Brahminism. Brahminism, indeed, is the religion of the great bulk of the people of India, though in some parts Mohammedanism prevails. In Ceylon, Buddhism prevails.

Aryan people are found in all south-western Asia from India to Asia Minor, but they are much blended with Tartars from the north. (The inhabitants of Arabia and Syria are a distinct branch of the Aryan race, and their language is called the Semitic). Throughout all this region Mohammedanism is the prevalent religion, Arabia being its original home; although in regard to it the people are divided into two much-contending sects.

In the Malay Peninsula, and in the Philippine Islands, and in other parts of the Malay Archipelago, there is a dark-skinned, thick-lipped, woolly-haired race, akin to the Negroes of Africa, and known as Negritos.—The Japanese are of a mixed race: their origin is uncertain, but they are probably Mongolian.

8. Civilization.—Asia is the ancient home of civilization. Long before the aboriginal inhabitants of America, or even of Europe, had given up their wandering savage habits, and had become settled agriculturists, and dwellers in villages and towns, many of the peoples of Asia had made considerable progress in civilization—had become tillers of the soil and skilful workers in wood, metal, and stone, and weavers of wool and vegetable fibres. But having attained to a certain degree of advancement, the Asiatics (with the exception of the Japanese) seemed content: they have made no improvement in the arts and customs of civilization for many hundreds of years. The same rude methods of farming are now followed as were employed two thousand years ago; and although the metal-working, weaving, and other arts of the people of China, India, Persia, and Arabia, produce articles which cannot in any way be surpassed in the best European and American workshops, yet these arts have shown no progress for centuries.

To the Teacher.—The very advanced civilization of the people of Palestine, as recorded in the Bible, can be used in illustration of this statement.—The skill of the Chinese in the manufacture of silks, satins, cottons, and porcelain (especially the latter), is not surpassed in the world; but their methods of manufacture have remained the same for centuries. With many inventions—printing, the making of gunpowder, wood-engraving, and the polarity of the load-stone—they were familiar long before Europeans were; but as a nation they have long seemed to contempt improvements, and to desire to be no better than their ancestors; so that, far from making progress in civilization, they are retrograding; and, indeed, of many of the arts in which they were once skilful, they have now lost the secret.—In India, the arts of spinning, weaving, and dyeing cotton, have been known and practised for two thousand years, perhaps for a much longer time; but the implements used in the whole process of manufacture, of even their finest fabrics, are the same now as they have been in all this long period.—The evidences of Persia's ancient architectural skill remain in many magnificent ruins on the sites of the capitals of Cyrus and Darius, but in comparison the Persian architecture of to-day is despicable.—The inventive skill for which the Arabians were once noted was not shown till a much later period; however, they have long since lost it; but the sword-blades of Damascus, the coppersmiths' work of Bagdad, and the goldsmiths' work of Oman, have never been surpassed in more modern times.

9. Occupations of the People.—In no part of the world are so many people engaged in pastoral occupations as in Asia. In the whole of Asiatic Russia, including Turkestan, in the whole of the Chinese Empire outside of China Proper and southern Mantchooria, in Afghanistan, Beloochistan, Persia, and Arabia, and in the whole of Asiatic Turkey away from the sea-coasts, the rearing of horses, cattle, sheep, and goats, and, in the more southern parts, of camels, is the occupation which employs most of the people; and in the greater part of this vast area the population is nomadic: that is, the various tribes do not reside continuously in one district,

but wander from place to place, whenever the mood for doing so possesses them, driving their flocks and herds with them. Agriculture and fruit culture are pursued only in those districts which have a sufficient rainfall (as in the Tobolsk district, in Siberia, or on the coast regions of western Asia), or where irrigation can be used. Towns and cities, in this region, are not numerous, and are found principally on the great commercial routes between China and European Russia, and between central Asia and Persia, Arabia, and Asia Minor. In the towns, of course, the people are chiefly engaged in trade or in various handicrafts. Some of their manufactures are exported: for example, the carpets of Persia and Asia Minor are very beautiful, and are much sought after by wealthy



JAPANESE TOWN.

Europeans and Americans.—India and China are densely settled by agricultural communities, and produce for home use, and also largely for exportation, the most valuable grains, fibres, and fruits. These countries also have great manufacturing communities, and many of their wares find ready sale in Europe and America,—especially Chinese porcelain, satins, and carved ivory work, and Indian silks, shawls, and muslins. But great manufacturing establishments, such as are common in Europe and America, are almost unknown in Asia. India, and especially China, are also maritime nations, having an immense number of small ships and junks, which trade along their own coasts and the islands of the Malay Archipelago.—The people of the Indo-Chinese peninsula and the Malay Archipelago are settled and industrious, and though principally engaged in the cultivation of rice, and in the production of tropical fruits and spices, they have some manufactures.—Japan is to be distinguished from all other Asiatic countries: it attained to a high degree of advancement by itself; and it is now so rapidly adopting the ideas of western civilization (that

is, the civilization of Europe and America), that it is fast leaving all other Asiatic countries far behind. Its people have all the varied pursuits of Europeans and Americans; and their manufactured articles in metals, fabrics, and cabinet and lacquered ware, in beauty of design and excellence of workmanship are equal to those produced anywhere else in the world.

10. Facilities for Transportation.—Except in India, and the islands of Java and Japan, railways can scarcely be said to be found in Asia at all. The vast interior trade of the continent, outside of India, is carried on by means of caravans, or (as in Siberia and China Proper) by river shipping; China has also some important canals.—India is well supplied with highways, but elsewhere the governments of the various countries pay little attention to road-making.

To the Teacher.—Telegraphs are much more generally established in Asia than railways are.—Russia is constructing railways in several parts of her western Asiatic possessions; but the Government of China refuses to permit either telegraphs or railways to be built in that country, although very short lines of both have been constructed there notwithstanding the opposition of the Government.

11. Government and Education.—In India, the influence of the British has done much to establish good laws and a just system of government. But elsewhere the governments of Asia are absolute despotisms—being simply the authority of the emperor, king, or chief, limited only by the ability of the subjects to rebel, although the conduct of the rulers is very much influenced by traditions and long-established customs. Among the small nomad tribes, however, all the members are almost on an equality, and the chief is little more than a nominal head; but in settled communities his authority and power are much greater.—In India, the interests of education are fairly well provided for, partly owing to native effort, and partly owing to English influence; and the upper classes of the Hindoos are exceedingly intelligent and astute. In China, education is held in the highest esteem, and public offices are filled in accordance with the results of competitive examinations; but China has no general system of education such as we have in Canada, or as is found in European countries; and the sort of education esteemed there is what we should call valueless.—Throughout the rest of Asia, except Japan, education receives but little attention; save that in the Mohammedan countries the Koran, or Mohammedan Bible (which is held to be the final authority in customs

and laws, as well as in morals and religion), has everywhere many zealous teachers and students.

To the Teacher.—A most characteristic feature of all Asiatic communities where European influences have not been exerted, is the low social position accorded to women—in Mohammedan countries especially, but scarcely less so in India. In China, woman is held in higher esteem, and is put more on an equality with man, but even there her education is entirely neglected.

It must be remarked again that to much that has been said of Asiatic countries Japan is an exception. The progress which this country is making in her system of government and administration of justice, and the attention which she is giving to education, as well as her recognition of the principle of individual freedom in matters of religion, and her energy in constructing improved public works, are all rapidly placing her on an equality with the foremost nations of the world.

12. Chief Cities.

TIPLIS (70,591) is the capital city of Georgia, or Russian Trans-Caucasia.—**BOKHARA** (30,000?), celebrated for its mosques and schools, and the chief seat of Mohammedan learning in central Asia, and **KHIVA** (6,000?), are the principal cities in the so-called Independent Turkestan.—**EKATERINBURG** (25,133) is noted for its finely-polished precious stones. **TOBOLSK** (17,427), **OMSK** (30,559), **TOMSK** (25,605), and **IRKUTSK** (32,321), are the capitals of Siberian provinces, and the chief places to which Russian exiles are transported. **KIAKHTA** (4,286) is the great emporium of the trade between China and Russia. Here the teas, porcelain, silks, nankeens, lacquered ware, candies, and other products of China that have been brought across Mongolia by caravans are exchanged for Russian furs, lambskins, minerals, and leather goods, and are sent by river and overland routes to Nijni-Novgorod and Moscow.

PEKING (1,000,000?), the capital of the Chinese Empire, is perhaps the largest city in Asia, but the number of its population is unknown. Like most other Chinese cities, it is surrounded by walls, but has many large suburbs. The principal streets of the city are about 200 feet wide, and they are constantly filled with a busy trading people; but the minor streets (as in so many other cities of China) are crooked, narrow, poorly built, and unclean. Foreigners are not allowed to trade at Peking. (They are allowed to trade at several other cities, but not at the capital.) **SHANG-HAI** (250,000) is the chief city of China for foreign trade, and also for internal commerce. Its harbor is always crowded with Chinese junks and with shipping from all parts of the world. **NANKING** (250,000) was formerly celebrated for its beautiful porcelain tower, now destroyed. It was also in former ages the populous capital of China, and magnificent ruins of its ancient splendor still remain. **HAN-KOW** (700,000), on the Yang-tse-kiang, is the great emporium of central China. It is especially noted for its immense export of tea; also of raw silk and tobacco. **HANG-CHOW-FOO**, or **HANG-TCHEOU**, (500,000) is one of the gayest and most beautiful cities in Asia. It is especially noted for its silks. **FOO-CROW** (500,000) is noted for its porcelain manufactures, and for its export of black tea. **AMOY** (300,000) has a large export trade, especially in tea, camphor, sugar-candy, and paper. **CANTON** (1,000,000?) has long been noted for its European trade. Its chief exports are tea, silk, cassia, palm-leaf fans, pyrotechnic goods, sugar, and porcelain. In its markets, as in those of other

Chinese towns, are to be constantly seen the delicacies esteemed in Chinese cookery: horse-flesh, dogs, cats, owls, hawks, and edible birds' nests. The harbor and river of Canton are constantly crowded with small boats, and many of these are permanently moored, and inhabited as residences by people of the lower classes.—There are many other large cities in China.—All Chinese statistics are merely vague estimates.

LHASSA, or **LASSA** (25,000), the capital of Thibet, is the residence of the Grand Lama, or sovereign pontiff of Buddhism, the religion which prevails throughout all eastern Asia. Lhassa, like other towns where Buddhism prevails, abounds in monasteries.—**CASHGAR** (80,000?) and **YARKAND** (120,000?), the chief towns of eastern Turkestan, have settled trading and manufacturing populations, and considerable commerce with China Proper and Russia.

HUE (100,000?), the capital of Anam, is in reality a French garrison town.—**BANGKOK** (400,000), the capital of Siam, is traversed by canals, and many of its houses either float on water or are raised on piles. It is noted for the number and gorgeousness of its temples devoted to Buddhism. Bangkok has adopted many European customs, and makes use of many modern inventions. Its exports are large, and include sugar, rice, gums, dye-woods, timber, and tin.

CALCUTTA (871,504), the capital of the British Indian Empire, is the seat of an immense trade by sea and by river, and by railways and canals. Its exports comprise most of the characteristic products of India, including cotton, jute, rice, opium, tea, raw silk, indigo, lac, hides, saltpetre, matting, gunny-cloth, and gunny-bags. Calcutta has a university, several colleges, and a well-organized system of instruction for boys;—as elsewhere in India, the education of girls is less attended to. Although its situation is unhealthy, Calcutta has become, since its occupation by the British, the healthiest city in Asia. **BOMBAY** (773,196), owing to its excellent harbor, and its situation on the side of India nearest Europe, is fast becoming the commercial rival of Calcutta. It is the terminus of the steamship route *via* the Suez Canal from England to India. The exports of Bombay, in cotton, grain, and opium, are very great. **MADRAS** (405,948) has no harbor, but nevertheless its trade in all characteristic Indian produce, including pepper, is very large. **LUCKNOW** (284,779) is remarkable for its mosques, temples and palaces—all resplendent with gilded minarets, umbrellas, cupolas, and towers. **BENARES** (207,578) is the religious capital of Hindooism, the "sacred" or "holy" city of the Hindoos. It has many beautiful temples, and is the resort of pilgrims from every part of India. The waters of the Ganges are here thought to be sacred, and to possess the virtue of cleansing from all sin; and hence the river-banks are constantly crowded with bathers and worshippers. Benares is noted for its delicate filagree-work, and for its gold-embroidered stuffs; and its bazaars are always filled with the richest Indian goods. **DELHI** (173,393), formerly the capital of the great Mogul Empire, is the chief centre of Mohammedanism in India. Delhi is noted for its numerous mosques and palaces, although those that now remain are only a scant part of its ancient magnificence. **AGRA** (149,008) is noted for its Pearl Mosque, the most beautiful

specimen of Mohammedan architecture in India; and for its Mausoleum, the most splendid sepulchre in the world.—**RANGOON** (134,176), the chief city of British Burmah, has a large export trade in rice, cotton, petroleum, and teak-wood.—There are many other very large cities in India.

COLOMBO (120,000), the capital of the British crown colony of Ceylon, is especially noted for its exports of cinnamon, coffee, and coir or coconut cordage.

CABOOL (60,000), the chief city of Afghanistan, and the residence of the Ameer, is noted for its fruit. Under English influence its manufactures and commerce are improving.—**KHELAT** (17,000) is the residence of the Khan of Beloochistan. Like Cabool, it has an elevated site, but its streets are filthy, and its houses are built mainly of mud.

TEHERAN (60,000?) is the modern capital of Persia, being the principal residence of the Shah. **ISPAHAN** (80,000?), once the exceedingly populous capital of Persia, though very much reduced in splendor, is still noted for its mosques, palaces, and colleges, all built in the magnificently decorated style formerly so much in vogue in Mohammedan countries. The manufactures of Ispahan, once so famous, are also much decayed, but the city is still famous for its rich silks, satins, and brocades. **SHIRAZ** (20,000) is noted for its wines, its sherbet, its attar-of-roses, and for its sword-blades and silk-stuffs. **BUSHIRE** (20,000) has a large export trade in silks, shawls, carpets, Persian horses, dried fruits, grain, turquoises, pearls, and assafetida.

MUSCAT (60,000?) has a good harbor and a large export trade in pearls from the Persian Gulf, and Arabian coffee; and also in almonds and dates, olives, assafetida, gum arabic, copal, and frankincense, and ivory, horses, hides, sulphur, and saltpetre. **MOCHA** (7,000) is famous all the world over for its coffee; its other exports are dates, gums, balm, senna, and ivory.

MECCA (50,000?), the birth-place of Mohammed, is the sacred city of Mohammedanism, and is visited annually by thousands of pilgrims from all parts of the Mohammedan world. The resident population wholly make their living by viciously cheating their visitors or begging from them. In the centre of the city is the famous Great Mosque, and in the centre of it is the Caaba, or "square house," containing in one of its walls the celebrated black-stone, to kiss which is a chief object of the pilgrims' devotion. **MEDINA** (20,000) contains the tomb of Mohammed, and is also a place of pilgrimage.

JERUSALEM (20,000), the chief city of Palestine, is, of all the cities in the world, the one that is most interesting to the Christian, since it was in it and in its vicinity that most of the important scenes recorded in the Bible were enacted. To Jews, Greek Christians, and Mohammedans, it is a holy city, and it is visited annually, especially at Easter-time, by thousands of pilgrims from all parts of western Asia and eastern Europe.

DAMASCUS (150,000), the chief city of Syria, is perhaps the oldest city in the world. It is noted for its manufactures (especially of silks), for its excellent bazaars, and for its trade (by caravan) in European products and those of Arabia and Persia. Damascus is a representative oriental city: no wheeled vehicles are to be seen in its streets, and no glass in its houses. Viewed

from a distance it is entrancingly beautiful; but a closer inspection reveals much meanness and dirt. **BEYROOT** (100,000?) is a great commercial city, with exports of raw silk, olive oil, oak galls, madder, gums, rags, sponges, wool, and skins. **ALEPPO** (90,000) has an immense caravan trade. **SMYRNA** (160,000) is the chief centre of trade in the Levant (that is, the eastern coast region of the Mediterranean). Its exports are principally dried fruits, silk, cotton, goats' hair, camels' wool, skins, rags, sponges, valonia, and saffron.

TOKIO (811,510), the capital of Japan, has (since 1869, when it became the residence of the emperor or mikado) conformed itself so completely to modern ideas that it has much of the appearance, and all the conveniences, of a great European or American city, differing in this respect from every other city in Asia. Deserving of particular notice is its great Imperial University, which has more than one hundred foreign instructors. Tokio is a great manufacturing city, and its manufactured products, in variety, excellence of workmanship, and beauty of finish, rival those of any city in Europe or America. **YOKOHAMA** (67,499), the port of Tokio, 18 miles distant, has an immense foreign trade and regular steamship connection with London, Melbourne, San Francisco, and Vancouver. Its principal exports are tea, silk, silk-worm eggs and cocoons, copper, camphor, and "Japanese goods." **OSAKA** (530,885) has both large manufactures and a great foreign trade. The city is traversed everywhere by canals, and has more than 1,100 bridges. **KIOTO** (567,334), the former capital, has extensive manufactures of porcelain, lacquered goods, and silks.

BATAVIA (99,109) is the capital of the Netherlands Indies, and the great emporium of the Malay Archipelago. It collects the produce of the islands and exports them to Europe—coffee, sugar, pepper, cloves, nutmegs, mace, sago, gutta percha, indigo, camphor, benzoin, gold dust and diamonds, tin, hides, and dye-woods. **MANILLA** (with its suburbs, 250,000) is the capital of the Spanish East Indies. Its principal export is Manila hemp (the best of all fibres for making cordage—found only in the Philippine Islands). Other exports are cigars (in immense numbers), sugar, coffee, mother-of-pearl, and gums.

Exercise.—1. Describe the main physical and climatal features of the various geographical regions of Asia, and show how they influence (1) the vegetation of these regions; (2) the animal life; (3) the occupations of the people. 2. Give some reasons why China, Indo-China, and India, should be more populous than other parts of Asia. 3. Enumerate the articles of commerce furnished to Europe and America by the following countries severally:—(1) China; (2) Indo-China; (3) India; (4) Persia; (5) Arabia; (6) Turkey-in-Asia; (7) Japan; (8) the Malay Archipelago. 4. Make a list of articles in common use in Canada, obtained from Asia, and state from what parts of Asia they are obtained. 5. Trace on the school globe the great commercial routes between (1) England, and India and China; (2) Canada and Japan; (3) Russia and China; (4) Eastern Turkestan and Asia Minor; (5) Persia and Turkey-in-Europe. 6. What articles of commerce may profitably be sent from Canada to Japan? 7. Describe the state of education in Asia.

closer inspection
0,000?) is a
live oil, oak
as. ALEPPO
(160,000) is
the eastern
principally
skins, rags,

1869, when
conformed
much of the
European or
other city in
at Imperial
instructors.
pictured prod
beauty of
YOKOHAMA
an immense
th London,
cin d ex
opper, cam
s both large
s traversed
yes. KIOTO
ufactures of

nds' ladies,
It collects
Europe—
tta percha,
tin, hides,
000) is the
l export is
age—found
cigars (in
d gums.

d climatal
and show
ne; (2) the
Give some
d be more
the articles
following
(3) India;
n; (8) the
common use
at parts of
e the great
nd China;
t Eastern
n-Europe.
sent from
n in Asia.



LESSON XLIII.

AFRICA.

1. Position, Boundaries, Extent, and Population.—Africa is a great peninsula in the eastern hemisphere, lying, for the most part, within the torrid zone. It is smaller than Asia, but larger than either North America or South America, and much larger than Europe.

To the Teacher.—By the Suez Canal, Africa has been made completely insular.—Teach the boundaries from the map.—The length of Africa, from north to south, is about 5,000 miles; its breadth, from east to west, is about the same as its length. The area of the continent is estimated at over 11,000,000 square miles; the population (which, however, can only be guessed at) is thought to be over 192,000,000.

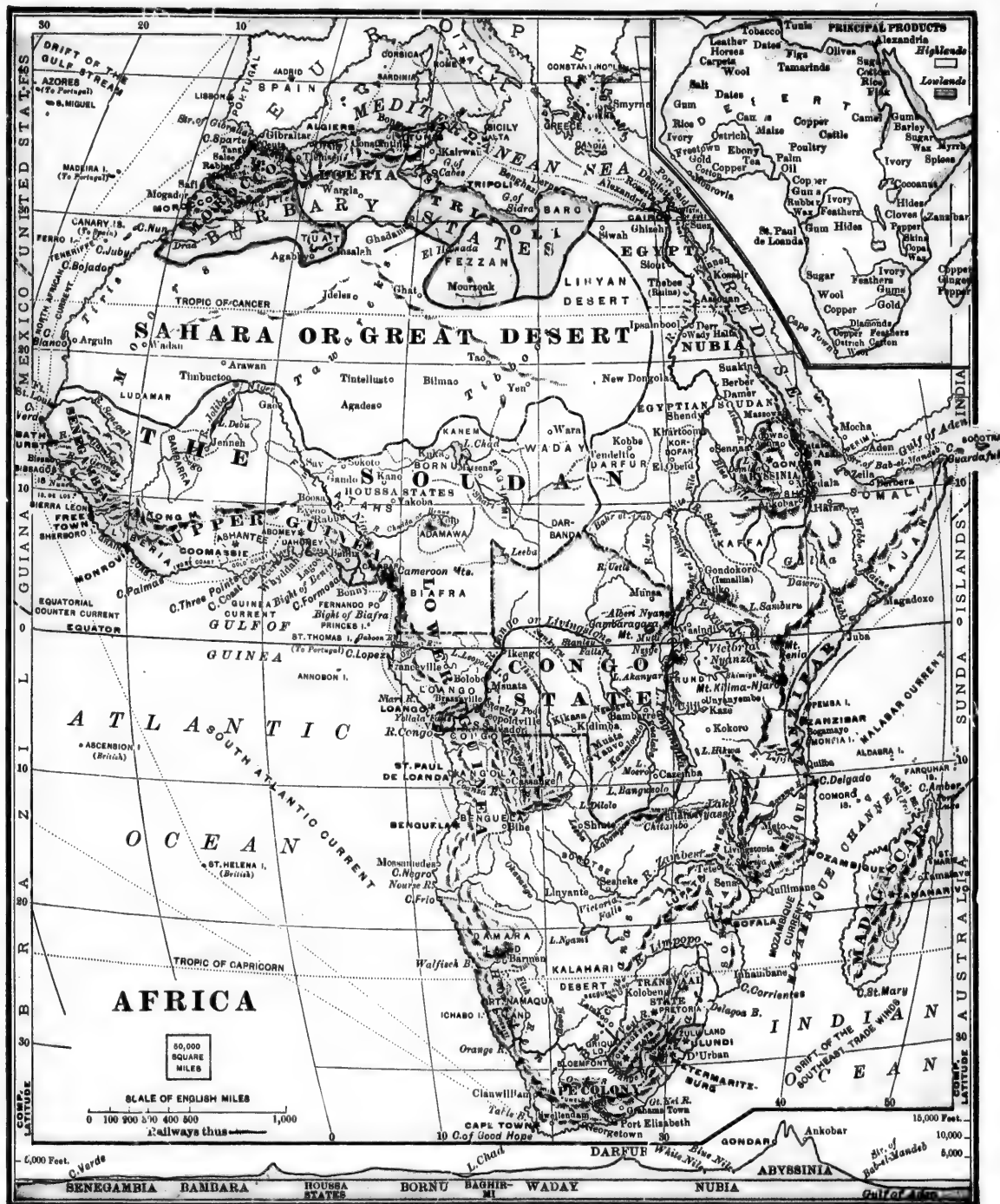
2. Subdivisions.

To the Teacher.—It is generally more convenient in the case of Africa to speak of geographical subdivisions than of political subdivisions,—since the latter are very unstable, and, for a large part of the continent, not definitely known. The following may be taught from the map:—1. NORTH AFRICA, or the BARBARY STATES, comprising (1) Morocco (an independent state, governed by a Sultan); (2) Algeria (a French possession); (3) Tunis (nominally independent, but in reality a French possession); (4) Tripoli (including Barca and Fezzan—in possession of Turkey). 2. NORTH-EAST AFRICA, comprising (1) Egypt (nominally subject to Turkey, and paying tribute thereto, but in reality a protectorate of Great Britain); (2) Nubia and the Egyptian Soudan (formerly subject to Egypt, but now independent and more or less under the authority of one chief); (3) Abyssinia (made up of several independent states, somewhat loosely governed by an "emperor"). 3. THE SAHARA, or GREAT DESERT, occupied by many wandering tribes. 4. THE SOUDAN (which may also be taken to include part of the Egyptian Soudan), comprising several independent native kingdoms—some of them prosperous and considerably removed from

barbarism. 5. EAST AFRICA (from the Gulf of Aden to the Limpopo River) comprising (1) various independent native peoples (as the Somali, and the Galla); (2) Zanzibar (an Arab state, ruled by a Sultan); (3) Mozambique (including Sofala—a Portuguese possession); (4) certain German possessions behind Zanzibar. 6. SOUTH AFRICA (south of the Limpopo and Cape Frio), comprising (1) Cape Colony and Natal (British colonies, with systems of government similar to our own); (2) the Orange Free State and the Transvaal Republic (independent republics, acknowledging British suzerainty in foreign affairs); (3) Zululand and the Zulu Republic; (4) German Possessions (the coast, from Orange River to Cape Frio—excluding, however, the territory of Walvisch Bay, which belongs to Britain); (5) the Kalahari Desert. 7. WEST AFRICA (from Cape Frio to the River Senegal), comprising (1) the Kingdom of Angola (between Cape Frio and the Congo—a Portuguese possession); (2) the Congo Free State (occupying also a large portion of Central Africa—a territory little known, but being rapidly explored and colonized by the "International Association," of which the King of the Belgians is President); (3) Loango, Biafra, and Calabar (regions occupied by many tribes, with occasional French, Portuguese, and German stations and claims on the coast); (4) Dahomey and Ashantee (strong native kingdoms); (5) the Gold Coast (a British possession); (6) Liberia (an independent republic, founded by American philanthropists as a refuge for emancipated slaves); (7) Sierra Leone (a British colony, founded with the same end in view); (8) Senegambia (occupied by many independent native tribes, with French settlements on the Senegal, British settlements on the Gambia, and Portuguese settlements on the Rio Grande. (NOTE.—Portions of West Africa are frequently referred to as Lower Guinea and Upper Guinea: the locations of these geographical subdivisions can be seen on the map). 8. CENTRAL AFRICA, little known, comprising, besides the Congo Free State, many independent states and tribes.

3. Physical Features.

To the Teacher.—Africa has a very simple contour: the few capes and bays by which the outline of the coast is varied should be taught from the map.—Generally speaking, the continent is bordered by a narrow, comparatively low, coast region—in some parts (as along the greater part of Guinea) so low as to be visible to navigators from within only a short distance. Within this low coast border, and at varying distances from the shore-line, but in the main parallel with it, is an almost continuous range of hills, mountains, or narrow plateaus, supporting, in all the southern half of the continent, an interior plateau region. (Along the eastern half of the Mediterranean coast,



and along the Atlantic end of the Sahara, this hill region is wanting—as may be seen from the map).—In the north, the Atlas Mountains give rise to the Barbary plateau (comprising Morocco, Algeria, and Tunis), the seaward terraces of which are well watered, well wooded, and very fertile.

South of the Barbary plateau (but on the east extending to the very shores of the Mediterranean), and stretching in a broad belt, of many hundred miles in width, from the Atlantic to the plateau bordering upon the Red Sea, is a great desert region, the largest in the world. In the east this desert is threaded by a river (the Nile), which is fed perpetually by the rainfalls of equatorial regions. The parts of the desert adjacent to this river are known as the Egyptian and Nubian deserts; a portion next to Egypt is known as the Libyan desert; but the rest of this vast region is known as the Sahara, or the Great Desert. The Sahara is by no means unvarying in surface; but though it is for the most part a low, level waste of sand, it comprises, also, great wastes of hard-baked earth, or of rugged barren rock, with, moreover, deep valleys, high plateaus, and even hills and mountains. Some of the elevated parts obtain a sufficiency of rain and are fertile: these are the "oases" of the desert. Some of the valleys are also fertile; but for the most part the Sahara, and the Libyan, Egyptian, and Nubian deserts as well, are rainless for years together; and, exposed to a burning sun, their sandy and rocky surfaces become hot to a degree insupportable to man, and can be traversed only by camels. These deserts are subject to violent wind storms, in which the hot blown sand is fearfully destructive of life.—Some parts of the Sahara, especially in the north-east, are much lower than the level of the ocean, and hence it has been proposed to inundate these parts and convert them into inland seas. No rivers flow from the Sahara to the ocean, but numerous streams are found within it, which either lose themselves in the sand, or empty into shallow salt lakes, whence the water disappears by evaporation.

South of the Sahara is a great well-watered pastoral belt, for the most part unwooded, which, enjoying a naturally fertile soil, and a sufficient but not excessive rainfall, is, perhaps, the best part of Africa; but it is as yet little known. Some of its rivers flow northward into the Sahara. Lake Chad, fed by the Shari and other great rivers from the south, overflows into a river which also loses itself in the desert to the north.

The southern half of Africa, within the bordering mountains, is mainly a plateau, but of very irregular elevation, and comprising many river valleys and many lake depressions. In the north-west the plateau includes Abyssinia, the highest continuous plateau area on the continent. From the eastern edge of the Abyssinian plateau the edge of the main plateau runs southward (being marked at the equator by Mounts Kenia and Kilima-Njaro, the highest mountains in Africa); and, skirting the southern end of the continent, runs northward up the western side to the confluence of the Benue with the Niger, where it turns eastward; finally, it reaches the western edge of the Abyssinian plateau. A narrow extension of the plateau also runs westward, and, taking in the Kong Mountains, ends in the mountains of Senegambia.

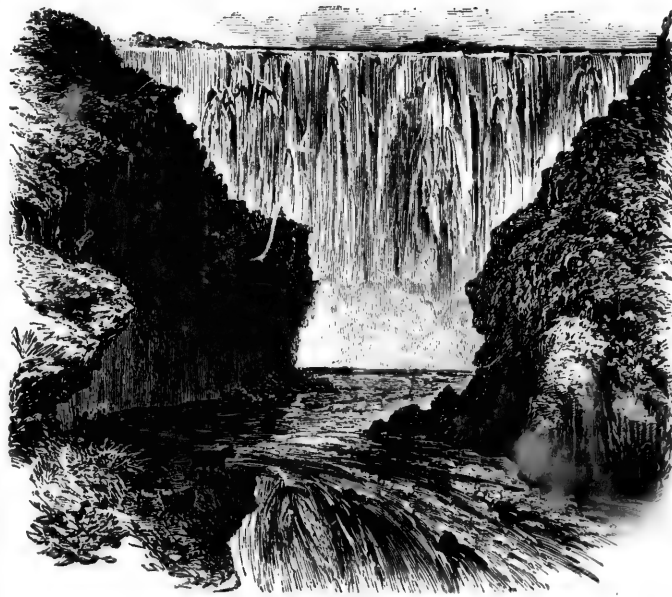
Originating in this great southern plateau, several great rivers find for themselves channels and force themselves through the bordering mountains to reach the sea or ocean. The principal of these are:—the Nile, the Zambesi, the Congo, and the Niger; also the Juba, the Limpopo, the Orange, the Ogowai, the Gambia, and the Senegal.—The Nile, whose head-waters were long unknown, may be said to take its rise in Lakes Victoria and Albert. Flowing northward it descends from the plateau in a series of falls; and receiving its main tributaries, the Ghazal, the Sobat, the Blue Nile, and the Atbara (or Black Nile), it then traverses the great desert without receiving a single additional tributary. By its annual overflowings, which leave behind every year a fresh deposit of fertilizing mud, brought down by the Atbara from the Abyssinian plateau, the Nile maintains in perpetual fertility a narrow valley in the desert of about eight miles in width, as well as the delta at its mouth.—The Zambesi is fed by Lake Nyassa, and by numerous tributaries in the interior: on this river are the celebrated Victoria Falls, often compared

with those of Niagara.—The Congo was also long a mystery; its head-waters are now known to be those of Lake Bangweolo and other lakes of Central Africa. Lake Tanganyika also overflows into the Congo, but only periodically.—The Niger, with its tributary the Benue, is also a mighty river, but for the most part without the plateau, although rising within it; Lake Debu forms part of its upper course.—Nearly all the rivers of Africa are frequently interrupted by falls or rapids, and often also by sand-bars at their mouths; and navigation is possible only in parts—generally in their middle courses. The Congo is the most useful river in this respect.

Southern Africa is, in some respects, the counterpart of northern Africa: a great pastoral belt stretches across the continent from the Zambesi to southern Angola (Benguela); the Kalahari Desert greatly resembles the Sahara, and its western limit

is likewise the Atlantic Coast; Lake Ngami, like Lake Chad, is fed by waters from the pastoral belt, and overflows into a river which also loses itself in the desert; and the southward-facing terraces of Cape Colony are not unlike the northward-facing terraces of the Barbary States.

4. Climate and Vegetation.—So much of Africa lies within the torrid zone, that necessarily its climate is very hot. But the equatorial parts are not the hottest, the heat in these regions being modified by an almost daily rainfall and the presence of a dense covering of luxuriant forest; moreover, on the coasts, the ocean breezes help to reduce the temperature, and in the interior the elevation of the plateau helps towards the same end. Towards the north and south of the inter-tropical region the rainfall diminishes, and the vegetation



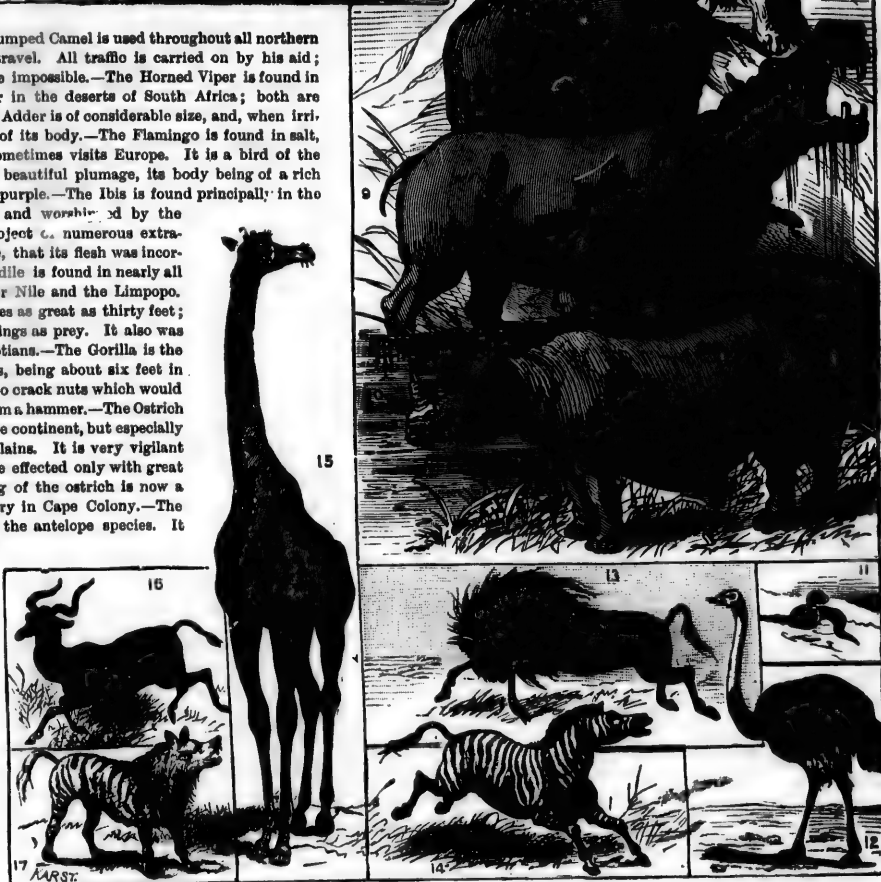
VICTORIA FALLS.

Animals of Africa.

1. CAMEL.
2. HORNE
3. VIPER.
4. FLAMINGO.
5. CROCODILE.
6. GORILLA.
7. LION.
8. ELEPHANT.
9. HIPPOPOTAMUS.
10. RHINOCEROS.
11. PUFF ADDER.
12. OSTRICH.
13. GNU.
14. ZEBRA.
15. GIRAFFE.
16. KODOO.
17. STRIPED HYENA.



To the Teacher.—The single-humped Camel is used throughout all northern Africa as a beast of burden and travel. All traffic is carried on by his aid; without him commerce would be impossible.—The Horned Viper is found in northern Africa, the Puff Adder in the deserts of South Africa; both are exceedingly venomous. The Puff Adder is of considerable size, and, when irritated, swells out the upper part of its body.—The Flamingo is found in salt, marshy, tropical districts, and sometimes visits Europe. It is a bird of the goose-kind, and is noted for its beautiful plumage, its body being of a rich rose-color and its wings of a dark purple.—The Ibis is found principally in the Nile valley. It was held sacred and worshipped by the ancient Egyptians, and was the object of numerous extraordinary beliefs—as, for example, that its flesh was incorruptible after death.—The Crocodile is found in nearly all African rivers, especially the upper Nile and the Limpopo. It attains a great length, sometimes as great as thirty feet; and it frequently seizes human beings as prey. It also was held sacred by the ancient Egyptians.—The Gorilla is the largest and strongest of the apes, being about six feet in height, and able with its teeth to crack nuts which would otherwise require a heavy blow from a hammer.—The Ostrich is found in almost every part of the continent, but especially in the deserts and in the open plains. It is very vigilant and fleet, and its capture can be effected only with great difficulty. The artificial breeding of the ostrich is now a successful and important industry in Cape Colony.—The Koodoo is one of the largest of the antelope species. It lives in small families of four or five. Its principal beauty lies in its horns, which are about four feet long, and are gracefully twisted in a wide spiral. The koodoo may be easily domesticated.—The Striped Hyena is peculiar to southwestern Asia and northern Africa; the Spotted Hyena is peculiar to southern Africa. The Jackal, a distant relative of the hyena, but a smaller animal, is common throughout all Africa. Both the hyena and the jackal are useful as scavengers, being fond of carrion; and both can be perfectly domesticated.



is less luxuriant—the landscape being principally open pasture, and varied forest and glade; while the seasons are distinctly rainy and dry—the rainy season being in summer. To the north and south again are the deserts, the Sahara and the Kalahari, comparatively rainless, insupportably hot in the daytime, though often uncomfortably cold at night: the Nubian desert is probably the hottest region in the world. On the plateau and coast regions of the extreme north and south the climate is still warm, though in winter snow occasionally falls; and there are but two seasons, the wet and the dry—the dry season being in summer. In these regions the soil is naturally fertile, the mountain-sides are well wooded, and the plains and valleys abound in herbage, and especially in flowers; the cultivation of suitable products well repays the agriculturist for his labors, and sheep-pasturing and cattle-pasturing are also profitable.

To the Teacher.—The seaward slopes of the Barbary plateau are exceedingly fertile, and were at one time the granary of the world; but agriculture there is now in a wretched condition, and to the indolent habits of the people pasturing is more agreeable. The natural and cultivated products resemble those of Spain.—The delta and valley of the Nile, by reason of the annual overflowings of the river (which begin at the end of June, and end with the end of November) are, perhaps, the most fertile region in the world. The seed grain is sown in the layer of almy mud left by the receded water, and, by the help of careful irrigation, the harvests are abundant. The principal crops are cotton, wheat, maize, rice, and sugar. Tropical fruits (dates, figs, pomegranates, oranges, lemons, and bananas) are cultivated. Among trees, the date-palm, the doum-palm (or branched palm), and the acacia (or gum tree), are most abundant. Roses are also much cultivated.

The Sahara has but a scanty vegetation, consisting for the most part of prickly, leafless, fleshy forms, which no domestic animal but the camel will eat. Its oases, however, and its "wadies," or occasionally watered valleys, are characterized by the presence of the beautiful date-palm, which in this region reaches its greatest perfection. (The date-palm thrives best under a hot sun in a sandy soil, where its roots are in reach of a not too plentiful supply of spring-water,—rain injures it. It furnishes food for man, horse, and camel; and without it the desert would be completely uninhabitable.)

South of the great desert the date-palm no longer thrives; its place, as the characteristic feature of vegetation, is taken by the oil-palm, the sago-palm, the cotton tree, and the baobab or monkey-bread tree; while the baobab (the most enormous tree on the globe, though not the highest) partly supplies its place as a food producer.—For ten degrees of latitude on each side of the equator the vegetation of the interior is of the most luxuriant sort: giant trees, thick underwood, and climbing plants in endless variety and number, cover the surface so completely that the sun's rays never reach it; even the rivers, as well as the swamps, at certain seasons of the year, are so filled with

papyrus (from which paper was first made) and other aquatic plants, that it is impossible to force a boat through them; while the coasts are usually lined with mangrove jungles, and made unhealthy by constantly decaying vegetation. In this luxuriant belt, as well as in the less luxuriant regions on either side of it, a sufficiency of food is obtained without much cultivation—the staple articles being principally the cassava, the yam, the ground-nut, the papaw, the tamarind, the custard apple, and shea-butter (or butter expressed from the kernels of the fruit of the butter tree)—though, of course, these are not found equally well distributed throughout the whole region; besides, almost all foreign tropical fruits have been introduced and can be easily cultivated.

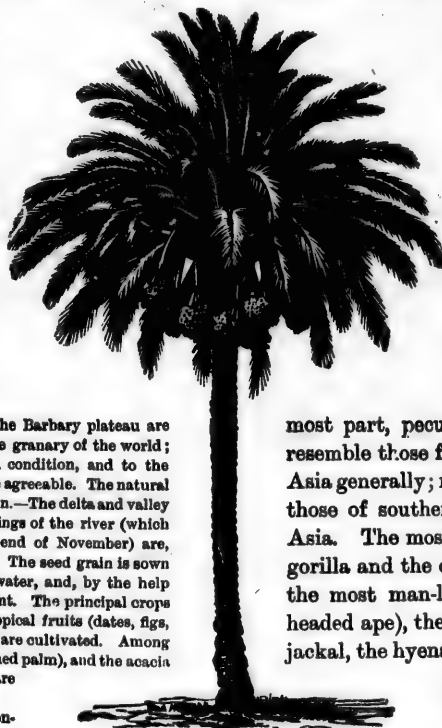
The Kalahari, like the Sahara, has its spiny, leafless, and contorted aloes and other plants; but groves of date-palms, or of other useful trees, are wanting.—Still farther south, the plains and seaward terraces of Cape Colony, while, for the most part, arid and desert-looking in the dry season, in the rainy season become one vast garden of beautiful flowers interspersed over sward of the richest verdure; the mountain-sides are frequently clothed with forests, while miniature woods of heaths (some as high as 12 or 15 feet), covered throughout most of the year by innumerable flowers, are found everywhere. The country and climate, however, seem to be more suited to pasturing than to agriculture, but grain is profitably grown in some parts. The native fruits are of little value, but nearly all the fruits of northern and southern Europe have been successfully introduced, and vine-growing is already an important industry.

5. Animal Life.—The

animals of Africa are, for the

most part, peculiar to the continent, though some resemble those found in Arabia, and in southern Asia generally; many of the birds of Africa resemble those of southern Europe as well as of southern Asia. The most characteristic animals are:—the gorilla and the chimpanzee (after the orang-outang the most man-like of apes), the baboon (or dog-headed ape), the mandril (or rib-nosed baboon), the jackal, the hyena, the lion, the leopard, the antelope, the gnu, the quagga, the zebra, the giraffe, the Cape buffalo, the elephant, the rhinoceros, and the hippopotamus. Of birds, the more

characteristic are the ostrich, the secretary-bird, the guinea-hen, the honey-sucker, and the bee-eater, besides many birds of beautiful plumage (as parrots and paroquets, sunbirds, orioles, and hoopoes), many water-fowl (including the flamingo and the ibis), and many birds of carrion. Of reptiles, lizards and vipers abound in the deserts; crocodiles swarm in many rivers; chameleons are found in all wooded parts; and the huge python and the deadly cobra are found in the swamps of Guinea. Of fish, edible kinds are extremely abundant in the



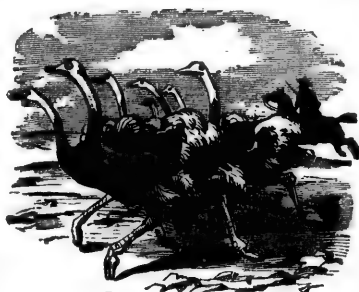
THE DATE PALM.

great lakes of the interior; and the coasts of North Africa and South Africa are visited by many edible sea varieties.

—With insects, Africa is unfortunately too well provided. The locust is a scourge to the whole continent. In the Nile region the zebub (a fly of about the size of a bee), and in central and southern Africa the tsetse (also a small fly), are exceedingly injurious to all animals, especially those which are domesticated. The termites, or white ants (most wonderful of the insect creation), found in West Africa and South Africa, though useful in many ways, are at times exceedingly destructive of cultivated vegetation, and even of houses, household furniture, and clothing.

To the Teacher.—The gorilla and the chimpanzee are confined to the equatorial regions of West Africa; varieties of the baboon are found through-

out all the continent; and many other kinds of apes are found, especially within the tropics.—The lion, king of all the lower animal creation, once common in south-western Asia, and also in south-eastern Europe, is now found principally in Africa; he rarely inhabits the deep forests, preferring open plains in which occasional thickets afford him shelter.—Antelopes are especially numerous in



OSTRICHES.

South Africa, the eland, the spring-bok, and the koodoo, being the most noted species. The gnu is also a sort of antelope, but in appearance it is a very composite animal, having, with the body of the antelope, the head of the ox, the horns of the buffalo, the mane of the horse, and the legs of the stag.—The horse is not found wild in Africa, and cannot even be acclimatized in the hotter parts of eastern Africa; but, of the horse tribe, the quagga is found plentifully in southern Africa, and the zebra, a somewhat larger animal, over the rest of Africa, as far as the Sahara.—The giraffe, tallest of all quadrupeds, is found throughout all eastern Africa, generally in small herds.—The Cape buffalo is one of the most formidable of animals, being more feared by the hunter than the lion. Its hide is so thick that the natives make shields of it which can scarcely be pierced by a musket-ball.—The African elephant is found in all well-wooded and watered parts of the continent south of the Sahara. He is distinguished from the Asiatic elephant by his larger ears and more convex forehead; and, unlike his relative, he has never been domesticated.—The African rhinoceros is of several species, but always two-horned. He is found in all parts of the continent, but principally in the south. The flesh of the rhinoceros is eaten as food, and his skin, being very tough, is of much use to the natives.—The hippopotamus is peculiar to Africa; he is found in all the hot river districts of the continent. His body is nearly as large as the elephant's, but his legs are shorter. He is aquatic in his habits, and swims and dives with ease. His food consists of plants and weeds which grow in shallow waters.—All these animals, especially the larger sorts, not long ago very numerous, are fast retreating before the advance of civilization to more inaccessible parts, and, under attacks of hunters who throng to Africa from Europe and America, are even disappearing altogether. The elephant is also much hunted by the natives for the sake of his ivory tusks, which form their most valuable article for barter.—The secretary and serpent-eater is one of the most remarkable of birds. It is

found in South Africa, and is highly prized there for its fearlessness in killing even the most venomous of serpents.—Of domestic animals, the camel is invaluable in all northern and north-eastern Africa. Ases, mules, horned cattle, sheep, and goats, are found in almost all parts of the continent; but in the hotter parts they are often of inferior kinds. The horse, also, is widely distributed, but he is rarely used as a beast of draught.

6. Minerals.—Africa is not rich in minerals. Gold is the metal most widely distributed, but it is most abundant in West Africa. Copper is very abundant in South Africa. The diamond fields of the Orange and Vaal rivers are the richest in the world. Salt, though widely distributed, is in some districts so scarce and valuable as to be used as a sort of money currency, and the deposits of the mineral are jealously guarded as royal possessions.

To the Teacher.—Minerals of various sorts are abundant in the Barbary plateau, but they are little worked.—The gold of West Africa is principally found in river and coast districts, in small particles mixed with sand and loam—hence the phrase "gold dust." (The people of Ashantee are skilful gold-workers.) Gold is also found in East Africa, and more abundantly in the Transvaal Republic and the district north of it.—Iron is abundant in Sierra Leone, and in neighboring districts.

7. People and Religion.—The people of northern Africa, including those of the Sahara, are of various mixed races, related to the races of south-western Asia and southern Europe. The prevailing religion in this region is Mohammedanism.—The people of the Soudan, and of all Africa southward (with the exception of the Hottentots), are Negroid in race. The people of western and central Africa (or the true Negroes) are the most characteristic members of this race,—their hair being woolly, their skin black, their noses flat, and their lips thick; but many of the Negroid peoples of Africa (as, for example, the Foulahs of the Soudan, the Galla of north-east Africa, and the Kaffirs of South Africa) are not true Negroes; for while resembling the Negro, they also resemble the European, the Arab, and the Hindoo. The Hottentots of South Africa (and their diminutive neighbors and kinsmen, the Bushmen) are quite distinct from the Negroid race; they resemble somewhat the Mongols and Malays of Asia: their eyes are oblique, their beard thin, their skin of a dull yellow tint, and their hair harsh, wiry, and arranged sparsely over their heads in tufts.—In the Soudan, and in East Africa, Mohammedanism is the prevailing religion; but elsewhere among the Negroid races (and among the Hottentot races also), the people are given up to fetish-worship and numberless other superstitions; although degraded forms of Mohammedanism, and even of Christianity, are to be found among them.—Through the labors of missionaries from

Europe, the United States, and Canada, Christianity in its pure form is now being introduced, though slowly, into every part of Africa—but with more success, perhaps, in the south than elsewhere.

To the Teacher.—The original races of the Barbary States are called Berbers. Allied with the Berbers are the Copts (or descendants of the ancient Egyptians, still found in Egypt), the Nubians, and the native races of the Sahara. The Moors are also ancient inhabitants of the Barbary plateau. But the Arabs have been so long settled in all these regions that they have become much mixed with the original races (especially in some parts), and have given to them their language and their Mohammedan religion. But although in Egypt the Arabs (or Fellahs) form the great bulk of the population, the Copts remain distinct, and retain their own religion, which is a sort of Christianity. The Abyssinians are related to the Arabs in race, but their prevailing religion is a corrupt form of Christianity.—In all Mohammedan intertropical Africa—the Soudan, Zanzibar, and Mozambique—Arabs have become mixed with the native races; and it is owing to the constant intercourse of Arab traders and adventurers with these people that they have become so Mohammedanized.—The permanent settlements which the Europeans are now making in Africa are, of course, influencing religion and race distinctions. The colonists of South Africa are principally English, although there are many Dutch among them, especially in the Orange Free State, and in the Transvaal Republic. In addition, English, French, and Greeks are numerous in Egypt; many French are in Algeria; and many Turks and Jews are found in all northern Africa, especially in Tunis, Tripoli, and Egypt.

8. Civilization, Government, Education.—

The north of Africa (especially the north-east—that is, Egypt and Nubia) was an early home of civilization; but that early civilization passed away, and was succeeded by others, which, in their turn, also disappeared. Wonderful evidences of the early civilization of Egypt still remain in stupendous pyramids, obelisks, and temples, which, by reason of the purity and dryness of the atmosphere of the country, have been preserved unharmed—some of them, at least—for 5,000 years. However, in respect of civilization, all northern Africa is now far behind western Europe. In the Barbary States the governments have been despotic and cruel, and the people are little better than semi-barbaric; and, though they possess considerable skill in the mechanical arts, their agriculture is very rude. The condition of Egypt is but little better. Yet in both Egypt and Algeria the influence of European civilization is bearing fruit in better government, increased attention to education, and the building of public works for the benefit of the whole people.—In other parts of Africa, civilization can scarcely be said to exist at all, except where it has been introduced by Europeans and Americans. Yet where Arab influence has been exerted—in the Soudan especially—a considerable advancement has been made in the useful arts (especially in weaving and dyeing, and in metal-working); and agriculture is systematically though rudely carried on, and is a principal occupation of the

people. Elsewhere, the occupations of the people are mainly those of barbarism: nature bountifully supplies the necessities of life without demanding much care or labor, agriculture receives little attention, and manufactures, except of a rude domestic sort, are unknown. But nearly all the people of Africa south of the Sahara, however barbarous, live in settled communities, and in this respect are superior to the nomadic nations of Asia. The so-called kingdoms of this part of Africa are despotisms, in which the most cruel and sanguinary customs prevail; but the power of the king receives some check from his obligation to consult, on all important occasions, with his "headmen," or chiefs of his subordinate tribes. Village and tribal affairs are settled by "palavers," or public meetings of the people;—the headman exercises no despotic power; he simply executes the decision of the palaver. Tribes and villages are frequently independent of any king.—Slavery and the slave trade have been the curse of Africa, and have made its people cruel and vindictive, suspicious of foreigners, and opposed to all civilizing and Christianizing influences. Slavery still exists in the interior, and tribes and nations frequently go to war for no other cause than the hope of making captives; but the carrying away from Africa of human beings to be sold as slaves in foreign countries, long the disgrace and sin of Europe and America, has now been completely stopped, owing to the efforts of several civilized powers, especially Great Britain. However, the importation of gin into Africa is now producing almost as much mischief as was formerly caused by the slave trade.—Education receives careful attention in the European colonies of South Africa, and in Liberia; and some attention is paid to it in the cities of North Africa; the Koran is taught in the Mohammedan countries of the interior; but elsewhere, except at the mission stations, education is unknown.

9. Commerce and Products.—Notwithstanding the backwardness of its civilization and the rude state of its agriculture and arts, yet, owing to its great natural resources, Africa produces many things very valuable in the world's commerce; and when colonization and the labors of missionaries shall have more fully opened up the continent and civilized its people, Africa will take its place as one of the most productive regions of the world.—The difficulty of transportation is a serious obstacle to African commerce. The rivers, great

as they are, have as yet been of little service in furthering trade; but the navigable stretches of the Congo and the Zambesi are now well supplied with steamboats. In the deserts of the north and north-east, and in the hot regions adjacent to them, the transportation of goods can be effected only by means of camel caravans. Railways have been constructed in Algeria, Egypt, and the colonies of South Africa, but not elsewhere; and until these are more generally built it will be difficult for African produce to reach profitable markets.

To the Teacher.—The exports from the Barbary States are the ordinary grains and semi-tropical fruits, and cattle, wool, skins, and esparto grass; together with produce from the Sahara (principally ostrich feathers and dates) and from the Soudan, brought to the north by caravans. Morocco is celebrated for its leather (white, yellow, green, and red), of great softness and strength, superior to any made elsewhere, the result of a process nowhere else understood. It is also celebrated for its silks and "fez" caps. The other Barbary States have similar manufactures.—The exports from Egypt are cotton, wheat, maize, rice, sugar, tropical fruits, and attar-of-roses; together with natural products brought from the interior—Ivory, ostrich feathers, gold, indigo, gum-arabic, and senna.—In all intertropical Africa, trade is almost universally carried on by barter—the natives exchanging their products for manufactured articles (such as guns, gunpowder, domestic utensils, tools, clothing, piece-goods, trinkets, and toys) supplied to them by foreign traders. But in many places "cowries" (shells brought from the Maldive Islands) are highly esteemed as money currency, and the traders often find it more convenient to purchase from the natives with these than to barter. The principal products of these parts of Africa are Ivory, gold-dust, palm-oil (of which many thousands of tons are annually exported), palm-kernels, ground-nuts, cocoanuts, gums, cocoa, caoutchouc, skins, coffee, rice, sugar, cabinet and other woods (including the valuable African teak), and dye-woods. But, owing to the difficulty of transportation, only the most valuable and easily carried of these, are as yet brought from far inland. The trading nations of Europe have established factories along the coasts, at which cargoes are made up for exportation; and commerce with the interior is effected by traders (European and Arab), who bring native commodities to these factories and exchange them for the articles which are needed in bartering with the natives in return.—The colonists of South Africa are largely devoted to sheep-pasturing and vine-growing; but the growing of wheat, barley, and oats, and the breeding of horses, cattle, and ostriches, also occupy much attention. Wool, wine, Angora hair, and ostrich feathers, and diamonds, copper, and gold, are the chief exports.

To the Teacher.—Most of the islands of Africa are small and belong to European nations. (See under "Great Britain," "France," "Spain," "Portugal.") The islands off Zanzibar belong to the sultanate of Zanzibar.—Madagascar, however, is one of the largest islands in the world, being about 1,000 miles long. Although its coasts are low, flat, and unhealthy, these are succeeded within by a higher and more healthy region of hill, valley, and plain; the innermost region is mountainous. Madagascar may be described as very productive, abounding in pasture land and forest, with a vegetation somewhat resembling that of tropical Africa. The people are not African; they are related to the Malays of Malacca and the Malay Archipelago. They possess a high degree of mechanical skill, and have made considerable progress in civilization, and, through the efforts of English missionaries, have, to some extent, become Christianized. Their trade with Great Britain (principally by way of the island of Mauritius) is considerable.—The population is about 3,500,000.—France has lately succeeded in forcing a protectorate over the island.

10. Chief Cities.

FEZ (100,000), the principal city and one of the capitals of Morocco, is the chief Mohammedan city of Africa, and a centre of Mohammedan learning and of Mohammedan pilgrimage. It

is celebrated for its numerous mosques. Fez has numerous manufactures, especially of the "fez" caps, morocco leather, slippers, silk handkerchiefs, fine carpets, and saddlery. MEQUINES (56,000), a favorite residence of the Sultan, and Morocco (50,000), the ancient capital, are also regarded as capitals of Morocco.—ALGIERS (70,747), the capital of Algeria, since its occupation by the French, has lost its oriental appearance and is completely modernized. It has an excellent harbor, some railway facilities, and a very large trade. BONA (21,974) is noted for its red coral, the finest in the world.—TUNIS (145,000) is the most important commercial city in the Barbary States. It has a large caravan trade with the Soudan and the oases of the Sahara, which enables it to export ostrich feathers, gold dust, ivory, and senna, largely; also a caravan trade with Constantinople and the east. Its manufactures consist of caps, shawls, carpets, leather, and essences; and besides these it exports grain, wool, hides, cattle, bone, rags, and sponges.—TRIPOLI (25,000) has a large caravan trade, and its manufactures are similar to those of Tunis. It has also one of the few good harbors on this part of the Mediterranean.

CAIRO (374,838), the capital of Egypt and the largest city of Africa, is one of the most interesting cities in the world, uniting as it does the picturesque features of eastern capitals—beautiful gardens and gorgeous palaces and mosques—with the material results of western civilization—manufactories, railways, iron bridges, printing offices, gas, electricity, and so on. Cairo is a great seat of Mohammedan learning, both primary and collegiate; but it has also a popular educational system, modelled upon that of western cities. Cairo is a distributing point for the merchandise of interior Africa, and its foreign commerce is very considerable. Not far from Cairo is GHIZEH, near which are the celebrated pyramids and the Sphinx, the grandest and most venerable antiquities which the world possesses. ALEXANDRIA (227,064) is the chief port of Egypt, and exports all characteristic Egyptian produce. Its harbor is one of the best on the Mediterranean. The railway which connects it with Cairo and Suez is an important link in the "overland" route between Great Britain and India. PORT SAID (16,560) and SUEZ (12,500) are the terminal ports of the Suez Canal. (NOTE.—The Suez Canal, about 100 miles in length, finished in 1869, at a cost of \$100,000,000, allows of the through passage of large steamships from the Mediterranean to the Red Sea. It is partly owned by the British Government. It shortens the distance by steamship between Great Britain and India by 3,750 miles). THEBES and IPSAMBOOL are famous for the vast size, beautiful execution, and wonderful preservation of their ruins (over 3,000 years old)—palaces and temples (still adorned with wonderful paintings and sculptures), and colossal statues, obelisks, and sphinxes.—KHARTOUM (20,000) is the chief town of Nubia and the Egyptian Soudan. It was formerly a great slave depot.—GONDAR (6,000), the chief city of Abyssinia, has some manufactures, especially of cotton cloths, iron and brass. The foreign trade of Abyssinia is carried on principally by MASSOWAH, but Massowah is now claimed as an Italian possession.

TIMBUCTOO (12,000) is the starting place of the caravans which convey the produce of Upper Guinea and Senegambia to

North Africa. **SOKOTO** (20,000) is the capital of the Hausa States, the most powerful kingdom of the Soudan. Its manufactures, and its trade with Great Britain, are important. Like most other Soudan cities, Sokoto is adorned with numerous mosques. **SEGO**, **JENNEH**, **GANDO**, **KANO**, and **KOBBE**, are important capital towns in the Soudan, each with considerable manufactures and a caravan trade with the north. They are all strongholds of Mohammedan faith.

ZANZIBAR (80,000), on one of the most fertile islands in the world, is the capital of the Sultanate of Zanzibar. It is the chief market in the world for the supply of ivory, copal gum, and cloves. (It exports 7,000,000 lbs. of cloves a year, all obtained from the island of Zanzibar.) It also exports red pepper, sugar, rice, coffee, coconuts, and oranges. **MOZAMBIQUE** (5,000), the chief Portuguese town of East Africa, is strongly fortified. Its export trade consists chiefly of ivory, gums, and wax.

CAPE TOWN (45,240) is the capital of Cape Colony and of the British empire in South Africa. It is a well-built modern city, with excellent educational institutions and a considerable export trade. Behind Cape Town rises the celebrated flat-topped Table Mountain. **PORT ELIZABETH** (13,049) has the largest export trade in South Africa. **KIMBERLEY** (12,000), in West Griqua Land, is in the heart of the most productive diamond region in the world. —**PIETERMARITZBURG** (14,429) is the capital of Natal. **D'URBAN** (16,630) has the only good harbor on the south-east coast. It exports wool, sugar, ivory, hides, maize, angora hair, and ostrich feathers, besides cotton, coffee, rice, indigo, arrowroot, pepper, and ginger. —**PRETORIA** (4,500) is the capital of the Transvaal Republic. —**BLOEMFONTEIN** (3,200) is the capital of the Orange Free State.

SAINT PAUL DE LOANDA (20,000), the capital of Portuguese West Africa, exports ivory, bees-wax, hides, coffee, rubber, and palm-oil. It was once a notorious slave port. —**LEOPOLDVILLE**, near Stanley Pool, is the capital of the Congo Free State. —**ABOMEY** (12,000) is the capital of the pagan native Kingdom of Dahomey. Like other West African strongholds, Abomey is defended by a living wall of dense prickly acacia trees. (NOTE. —Dahomey is remarkable for the degraded estimation in which its women are held: one-fourth are considered as married to the national fetish or idol, and the remainder are at the absolute disposal of the king. A large part of the king's army is composed of women. When the king dies, his wives murder one another. Human sacrifices are horribly common in Dahomey.) —**COOMASSIE** (18,000), the capital of the pagan native Kingdom of Ashantee, has considerable manufactures of cotton, pottery, and gold. Human sacrifices were, not long since, frightfully frequent in Coomassie, but, through the influence of the British, they have lately become much less frequent. —**MONROVIA** (8,000), the capital of the Negro Republic of Liberia, has a considerable export trade in coffee, palm-oil, arrowroot, and ivory. It is the seat of a college, and has many churches. —**FREE TOWN** (22,000) is the chief seat of British government in West Africa. Its climate is exceedingly prejudicial to Europeans. Its exports are coconuts, ginger, ground-nuts, india-rubber, copal, and palm-oil. **BATHURST**, the capital of British Gambia, exports gum, ivory, gold, tortoise-shells, African teak, and palm-oil.

LESSON XLIV.

AUSTRALASIA.

1. Position and Extent.—Australasia, the sixth grand division of the land surface of the globe, comprises the group of islands lying to the south-east of Asia, eastward of Macassar Strait, of which the great island-continent of Australia is the central member. The other principal islands of Australasia are:—Papua or New Guinea, Tasmania, and New Zealand; and Bismarck Archipelago (including New Britain and New Ireland), the Solomon Islands, the New Hebrides, New Caledonia and the Loyalty Islands, and the Fiji Islands; besides Celebes, the Molucca Islands, and other islands of the Malay Archipelago east of Macassar Strait.

To the Teacher.—The name "Oceania" is sometimes used to designate the sixth grand division of the globe. This term is more comprehensive than "Australasia," and is understood as comprehending all the islands lying between the Indian Ocean and the continent of America. Modern geographers, however, generally agree to consider the islands of the East Indies west of Macassar Strait as belonging to Asia, to use the term "Australasia" as defined above, and to speak of the islands of the Pacific eastward of Australasia as "Polynesia."—The territories in Australasia belonging to Great Britain are:—Australia, Tasmania, and New Zealand, and their adjacent islands; Southern New Guinea, the Fiji Islands, and Norfolk Island.

AUSTRALIA.

1. Extent and Population.—Australia is the largest island on the globe and a continent in itself: it is only one-fifth less than Europe.

To the Teacher.—The length of Australia, from east to west, is about 2,400 miles; its breadth, from north to south, is about 1,900 miles. Its area is estimated at 3,030,771 square miles. Its population is about 2,550,000.

2. Subdivisions.—Australia is divided among five colonial governments: New South Wales (the oldest colony), Victoria, Queensland, South Australia, and Western Australia.

To the Teacher.—Teach the relative positions and boundaries of the several colonies from the map.—The government of South Australia extends over all the middle part of the island.

3. Physical Features.

To the Teacher.—Teach the coast waters and the principal land features from the map.—The shore-line of Australia is little indented; good harbors, however, (except along the Great Bight) are fairly numerous.—The coast waters of the whole continent are comparatively shallow; so also are the waters between it and Papua. Along the whole north-east shore, at an average distance of about 30 miles, extends a line of reefs, or low sunken islands (for the most part coral), called the Great Barrier Reef, exceedingly dangerous to navigation, although it allows a safe passage for ships and anchorage within. Beyond the Reef the sea is very deep. Bass Strait also contains many reefs and low islands. All these facts lead to the supposition that the continent was formerly much larger than it now is.—Australia, like



Africa, is bordered by a comparatively narrow lowland region. Within this lowland border is a ring or belt of plateau land and mountain chains; but on parts of the north and south this elevated belt is wanting. On the south-east and east of the island the belt is much more prominent than on the west; here it receives different names in different parts—as the Pyrenees, the Australian Alps (with perpetual snow-clad summits—the highest elevations in Australia), the Blue Mountains, the Liverpool Range, etc.—but it really forms one continuous cordillera 2,000 miles in length, from near Portland Bay to York Peninsula. Between the ridges of this cordillera and the coast is the most fertile part of Australia—for the most part well wooded, but in the south-east containing immense stretches of pasture land. This region is also well watered; but its rivers are generally short and rapid, and vary very greatly in volume with the seasons of the year, and so are of little use for navigation. In the valleys on the northern and western slopes of the cordillera the principal mineral wealth of Australia, the gold for which it is so famous, is found.—In the south-east, occupying almost a quarter of the continent, is a great lowland region, drained by the Murrumbidgee, the Lachlan, the Macquarie, the Darling, and other streams. These rivers, as they approach the interior of the continent, owing to increasing evaporation and diminishing rainfall, grow less; and in consequence, the Murray, to which they are all tributary, is not the magnificent river which its head-waters would seem to give promise of. This south-eastern lowland region of Australia contains much of its celebrated pasture land; still, large areas of this part consist of nothing but swamp and barren fields of “scrub.” Pasture lands are also found along the inner slopes of the cordillera, far up into Queensland—these being the upland “downs” for which New South Wales and Queensland are noted.—In the north-east of the continent—the east and north-east of Queensland—there is that luxuriance of vegetation which characterizes all well-watered tropical regions.—The northern shores of the continent, westward of York Peninsula, are for the most part low and sandy, lined with mangrove jungles, and apparently of little value for human occupation.—The hill ranges which run parallel to the shores of West Australia contain many bands and stretches of pastoral and agricultural land; but the shores are uninviting, and this part of the island has made but little progress except in the extreme south-west.—The southern portion of the continent, from King George’s Sound to Spencer Gulf, is uniformly low, flat, sandy, and barren; and, moreover, rainless and uncrossed by a single river or stream.—The interior of Australia (apart from the south-eastern lowland quarter) is but little known; but it seems to be a vast, comparatively low-lying, rainless region, diversified by few rivers or streams, and with but a few inconsiderable mountain ranges. It is for the most part infertile, and from its appearance is supposed to have formerly been the bed of a vast sea. The exploration of it has been exceedingly difficult, owing to the absence of water and the frequency of great areas of impenetrable “scrub.” From its general rainlessness its rivers (or “creeks,” as they are all called) are of very uncertain flow; and its lakes (with the exception of a few in the south) are mere drainage pools, and disappear in the dry season. Despite this general infertility, there are yet large areas which have recently been found to be suitable for pasturing, or to be otherwise comparatively fertile, but of these little is known.

4. Climate.—The climate of the settled coast regions of Australia is warm, but very healthy—the atmosphere being remarkably clear, dry, and agreeable, throughout most of the year. Winter, there, corresponds in time with our summer; but it is a season of very heavy rains, not of frost and snow—snow is rarely seen except on the higher uplands. Summer corresponds with our winter, but it is much hotter and drier. Three or four times in the season, hot, scorching, dust-laden winds blow from the interior as from a furnace—exceedingly injurious to vegetation and very weakening to the human system; but elsewhere the dry summer heat is bearable, being

tempered by regularly occurring sea-breezes in the morning and land-breezes in the evening.—The inward slopes of the great cordillera do not enjoy so equable a temperature as the coast regions; and, moreover, besides always having a less rainfall, they are subject to occasional long-continuing droughts, when, for many months together, not a drop of rain falls, and when, for lack of water, the sheep and cattle of the pasture lands die by thousands.

To the Teacher.—The high hills and mountain ranges of the coast, especially in the east and south-east, intercept the vapor-laden winds from the ocean and cause the sufficient rainfall of the shoreward slopes, and the diminished rainfall of the inward slopes. In the interior, few hills exist to intercept the winds from the ocean; the great low flat basin, under an almost vertical sun, becomes intensely heated; and, being so vast, such winds as do reach it from the ocean have no effect in cooling it. But occasionally it relieves itself by pouring furnace-blasts outwards upon the coast region.

5. Vegetation.—In the low coast regions of the north, and in the north-east, the vegetation is tropical and resembles that of India and the East Indies, consisting of many sorts of large umbrageous trees, matted together in one close thicket by innumerable climbing and hanging plants, and harboring in their shade dense masses of orchids and ferns. But elsewhere the vegetation is, for the most part, peculiar to the continent. In all the more fertile regions the forest trees are principally evergreens, and many of them are of gigantic growth. They shoot their stems high up into the air, and have few branches, and these also shoot upward. They also have comparatively few leaves; and these present their edges to the sun, and so cast little shade;—this peculiarity permits good pasture-grass to grow everywhere among them. Some trees shed their bark annually. Forms of vegetable life which elsewhere appear only as plants and shrubs, in Australia grow to an immense size: ferns, nettles, reeds, lilies, tulips, fuchsias, geraniums, and honeysuckles, are found as tall as many trees are with us. The native grass of Australia, so valuable for pasturage, is also very unlike our grass: it grows to a great height, but sparsely, in separate tufts; and in consequence, pasture grounds must be proportionately of greater size.—Australia has few food plants of its own; and extremely few of the food grains, roots, and fruits, found so abundantly in other parts of the world, grow naturally there; but nearly all these have been introduced and now thrive abundantly in districts suited to their growth.

To the Teacher.—The most common trees of Australia are of the eucalyptus or gum tree tribe, and of the acacia tribe. Some of these are odoriferous; others distill a substance called manna, to the eye not unlike hoar frost, when

Animals of Australasia.



To the Teacher.—The Brush Turkey, much esteemed for the delicacy of its flesh, is found only in the dense thickets of south-eastern Australia. Unlike other birds, the female does not hatch her eggs by incubation. The eggs are placed in great mounds of grass and weeds, which the birds heap up, and are there hatched by the heat of the decomposing vegetable matter.—The Lyre-bird is found in the mountains of New South Wales. It flies but poorly, though it runs with great swiftness. It is of about the size of a common hen.—The Black Swan, a most graceful bird, is found in southern and central Australia.—The Kangaroos are of very many species; they are mostly confined to Australia and Tasmania;—a few species are found in Papua. To Australia the kangaroos are what deer and antelopes are to other continents. Many of the species might be domesticated.—The Brush-tailed Bettongs are a sort of kangaroo; they have long, prehensile tails, which they use for carrying bundles of grass with which they build their nests.—The Wombats are terrestrial burrowing animals, harmless, and slow-moving; they inhabit southern Australia and Tasmania.—The Bandicoots are also terrestrial animals; they make their nests out of dried leaves, grass, and sticks.—The Duck-billed Water-mole, and the Porcupine Ant-eater, are found only in Australia and Tasmania.—The Emu is a bird of the ostrich kind. It has only rudimentary wings, and its feathers at a distance resemble fur. It is a very swift runner, but it is so much hunted that it is now found only in the interior parts of Australia. (Note.—In the Malay Archipelago is found another bird of the ostrich kind, which much resembles the emu; it is called the Cassowary).—The Tasmanian Wolf, or Zebra-wolf, is a pouched animal, wolf-like in its habits, and having a head like a dog. It is found only in Tasmania.—The Apteryx is found only in New Zealand. Like the emu, it has merely rudimentary wings. When resting, it partly supports itself by its long bill. Its feathers are furnished with long fine hair, so that, at a distance, it seems to be fur-covered. From its peculiar cry it is called by the natives *Kivi-kivi*.

is found on the ground in the morning and disappears with the heat of the sun.—The Australian forests abound in woods very valuable for ship building, house-building, and house furniture; not only eucalyptus trees and acacia trees of many sorts, but also pine, cedar, and other woods. In the Queensland tropical forests, sandal-wood, satin-wood, rose-wood, tulip-wood, and other valuable cabinet woods, abound.—In West Australia there are immense tracts covered with the jarrah tree (a sort of eucalyptus), very valuable on account of its durability when exposed to water, and for its resistance to all destructive insects.—The vegetation of a great part of the interior of Australia is sparse and stunted: much of it consists of sea-shore plants and other low forms; and this helps to confirm the opinion that this region was formerly the bed of a great sea.

6. Animal Life.—The animal life of Australia is as peculiar as its vegetation. Australia has no apes or monkeys; no thick-skinned animals like the elephant and tapir; no bears, foxes, or wolves; no wild cattle, horses, asses, or sheep, except such as have escaped from the colonists. Most of its native quadrupeds are "marsupials" or pouched animals, the mothers being provided with a sack or pouch in which they carry their young: of these are the well-known Australian animals, the kangaroos, and the wombats, phalangers, bandicoots, and native "cats," "rats," and "mice." One other very strange animal is the duck-billed water-mole, which has a body like an otter and a bill like a duck, while the webbed claws of its feet enable it both to burrow and to swim. Few Australian animals are troublesome, but the dingo or native dog is an exception, for it commits great ravages on sheep and cattle. Bats are numerous and of various kinds; one very ugly sort is known as the flying fox.—Of birds, the most remarkable are:—the emu or Australian ostrich (often as high as a man), the graceful lyre-bird, the black swan, the white eagle, the bower-building satin bird, the "laughing jackass" (a sort of woodpecker, whose cries are most mirth-provoking), and the honey-eater. Parrots and cockatoos are perhaps the most common of Australian birds, and some sorts are very beautiful.—Of reptiles, the Queensland crocodile is 30 feet long; the "leathery" or "oil" turtle of the east coast is sometimes 9 feet long. Lizards are very numerous, especially in the hot, sandy, or rocky districts of the interior: one sort grows to a length of 8 or 9 feet. Snakes are numerous, and many are venomous. There are many kinds of frogs, and one sort is quite handsome, having blue legs and a gold-colored back.—Of edible fish, Australian waters are inhabited by many fine sorts, some of which are of great size. The right whale, the sperm whale, and several sorts of seals, also are found; but these are becoming scarcer year by year.—Of insects, the mosquito and the lion-ant are the most formidable,

the former being, in some parts, for six months in the year a formidable scourge.

To the Teacher.—The kangaroos are grass-eaters. They are of many sorts and sizes, but are all distinguished by the great length of the hind legs and hind feet, while their fore legs are short. They run by leaping. The Great Kangaroo is often more than 7½ feet in length and over 200 lbs. in weight. His speed is sometimes too swift for the swiftest greyhounds. His tail, which is very long, thick, and strong, is of great use to balance himself while leaping. When at bay he is able to kill a dog with a single stroke of his hind leg.—The wombats are burrowers and root-eaters.—The phalangers are small fruit-eaters and insect-eaters; they live in trees; some of them, on account of their graceful leaps from tree to tree, are called flying squirrels. The native bear is also an insect-eater, but it is more like a sloth than a bear.—The bandicoots are little insect-eaters and root-eaters, very pestiferous to farmers.—The marsupial also-called "cats," "rats," and "mice," are flesh-eaters.—The English rabbits, which the colonists introduced, have increased so enormously that they have become a most formidable nuisance.

7. Minerals.—The mineral wealth of Australia is very great. New South Wales has an abundance of gold, iron, and copper; as well as of silver, lead, and tin; and, by reason of its vast deposits of coal, this province will, no doubt, in time, become the great manufacturing region of the continent. Victoria has produced more gold than any other country in the world except California, and it now exceeds California in its annual output of the precious metal. Victoria has also rich stores of other metals, especially of coal. Queensland has rich stores of gold and tin; and also of copper, iron, and coal. South Australia has probably the most productive copper mines in the world. West Australia has mines of lead, silver, copper, and iron.—Precious stones of many sorts are frequently found in New South Wales and Victoria; and pearls are obtained quite plentifully off the coasts of both Queensland and West Australia. Petroleum is a product of New South Wales.

8. People.—The people of Australia are principally colonists, or the descendants of colonists, from the British Islands. Many Chinese are found in the east and south-east. Of the aboriginal inhabitants there are now only about 75,000 remaining, and their number is rapidly decreasing.

To the Teacher.—The aboriginal Australian is now considered as one of the principal primitive types of man. He is distinguished by a chocolate-brown skin, large sunken black eyes, thick, but not protuberant lips, a broad nose, and black hair either straight or wavy; also by wearing whiskers and a short beard. He is of average, but not large, stature. Though long considered among the lowest of human beings, the Australians are in fact possessed of considerable intelligence. Some of their languages (and they are quite numerous) are comparable with the Greek in grammatical refinement; but they have no god and no religion, and no word expressing either of these ideas. In their native state they had no kings or chiefs; they were governed by councils, and the different tribes lived apart from one another. They showed little mechanical ingenuity or skill, except in the making of weapons of war and hunting—as, for example, the well-known boomerang, and their

nets for catching emus and kangaroos. Their dress consisted of a single skin or matting. They had no settled abodes, and so they did not build permanent dwellings; their shelter was never better than a hovel of sticks and leaves. They kept no domesticated animals, nor did they in any way till the ground to produce a food crop. And as Australia naturally furnishes but very few kinds of vegetable food, they lived principally on animal food; of this scarcely any sort came amiss—grubs, worms, snakes, lizards, shell-fish, turtles, birds, and kangaroo flesh. They sometimes ate human flesh, and their morality was of a low type; however, their character was far from being altogether bad.

9. Occupations of the People.—The principal industry in Australia is wool-growing. The number of sheep kept is over 60,000,000, many of them being of fine breed. South-eastern Australia is now the great wool-producing region of the world. Cattle-raising is also an important industry. The cattle and sheep are kept on great stretches of pasture-land called "runs." All the ordinary farm grains and roots known in England or Ontario, have been introduced and are found to flourish abundantly, and agriculture is an important occupation; but more so, perhaps, in South Australia than elsewhere. Mining is the industry next in importance to

wool-growing; and the richness of the gold deposits in Victoria and New South Wales has done much to draw settlers to these colonies. The indigenous fruits of Australia are valueless; but the growing of foreign fruits (both of ordinary and tropical kinds) promises to be a very important industry in all the coast districts of the east and south-east: the cultivation of the grape for wine-making has already met with much success in New South Wales, Victoria, and South Australia. Sugar is produced in Queensland and New South Wales, and the cotton plant and the tea plant have also been introduced into these colonies. The manufactures of Australia are entirely for home use; as yet they are almost wholly confined to the capitals.



SHEEP WALK.

10. Government, Religion, and Education.

—The Australian colonies have systems of government very similar to those of the several provinces of Canada; but the colonies are independent of one another—not confederated, as in our Dominion. The governors of the different colonies are appointed by the Government of Great Britain.—The various religious denominations found in Canada are also found in Australia; about one-third of the people are Roman Catholics.—Education is exceedingly well attended to, each province having a public school system similar to our own in Ontario.

11. Chief Cities and Towns.

SYDNEY (with suburbs, 300,000) is the capital of New South Wales. It is situated on Port Jackson, one of the finest harbors in the world, amidst scenery of the most surpassing beauty. It has regular steamship connection with London (*via* Melbourne, Adelaide, and the Suez Canal), and with Wellington (New Zealand), Panama, San Francisco, and Vancouver. Sydney is a beautiful city, having many handsome buildings and large parks. It is

the seat of a Royal mint, and of an excellent university.—**NEWCASTLE** (15,600), **PARAMATTA** (8,440), and **BATHURST** (7,250), are the remaining principal towns of New South Wales.

MELBOURNE (with its numerous suburbs, 365,000), the capital of Victoria, is situated on the Yarra Yarra river, at the head of the great bay of Port Phillip. Melbourne owes the great rapidity of its recent growth to the richness of the gold fields which lie behind it. It is exceedingly prosperous: its public buildings are very fine; its public parks and gardens are numerous and beautiful; and its university is very richly endowed.—**BALLARAT** (41,110) and **SANDHURST** (36,570) are in the midst of the gold-fields. **GEELONG** (20,890) is an important port.

ADELAIDE (with suburbs, 47,979), the capital of South Australia, is in the midst of the rich copper mines for which this colony is noted. From Adelaide an overland telegraph line, 2,200 miles long, extends to Port Darwin, on the north coast of

the continent, and joins with a submarine cable, *via* the East Indies, to India, and thus establishes telegraphic communication with England.

BRISBANE (40,000?), the capital, and ROCKHAMPTON (12,000), are the chief places of Queensland.—PERTH (10,000?) is the capital of West Australia.

To the Teacher.—The settled portions of Queensland, New South Wales, Victoria, and South Australia, are well supplied with railways; and the railway systems of the three first-mentioned colonies are connected.

THE REMAINING COUNTRIES OF AUSTRALASIA.

1. **Tasmania.**—Tasmania, in its physical features, climate, vegetation, animal life, minerals, and cultivated products, generally resembles the best parts of south-eastern Australia. It is a British colony, with a system of government and an education system similar to those established in Victoria and New South Wales.

To the Teacher.—The area of Tasmania is 26,215 square miles; the population is about 135,000. Tasmania is a hilly country, being indeed but a prolongation of the great eastern cordillera of Australia. A large part of its surface is still covered with forests which afford the most beautiful cabinet woods and the largest-sized timbers. The soil of three-fourths of the island is exceedingly fertile; and the climate is well suited to the growing of grains and fruits; but farming, hitherto, has been negligently practised. Economic minerals are very abundant. The principal products are wool, gold, tin, and fruit. The people are nearly all of British descent; the aboriginal race has lately become extinct. HOBART (29,823), the capital, and LAUNCESTON (18,530), are the chief towns; they are connected by railway.

2. **New Zealand.**—New Zealand consists of two large islands, and several adjoining smaller islands, situated on the earth's surface almost directly opposite the British Islands, and having an area almost equal to their area. The New Zealand islands are of volcanic origin, and for the most part are occupied by mountains, some of these being active, and others extinct, volcanoes. Yet only one-fourth of the soil is unfit for cultivation, and many of the mountains are covered even to their very tops with evergreen forests of luxuriant growth. Indeed, in respect to fertility of soil, and geniality and salubrity of climate, New Zealand is one of the most favored regions of the world. Its forests, shrubberies, and grassy plains, remain green throughout the year, and farming operations and pasturing may be pursued at all seasons. All the useful grains, grasses, roots, and fruits, known to England or Ontario, have been introduced into New Zealand, and are cultivated with great success.—The people are principally British colonists; but the Maoris, or aboriginal inhabitants, who have largely become civilized, are numerous enough to be influential. In respect to its industries, its form of government, its education system, and the religion of its people, New Zealand resembles the Australian colonies.

To the Teacher.—New Zealand is about 1,200 miles from Australia, and about 6,500 miles from British Columbia. The area of the islands is 104,403 square miles; the population is about 620,000, including 42,000 Maoris.—The islands are subject to occasional earthquakes and volcanic eruptions, especially the northern island.—The climate is very equable throughout the year, winter (corresponding in time to our summer) being a very mild season. Rain is always plentiful; and this, rather than extraordinary fertility of the soil, accounts for the luxuriance of vegetation. The timber trees of New Zealand are of great value, especially its pines (the kauri-pine in particular) and its birches, and these are much valued for ship-building. Kauri-pine gum is also a much valued vegetable product. The native flax is highly esteemed for the making of ships' cordage.—New Zealand is remarkable for the fewness of its indigenous animals. The most noteworthy of these is the apteryx or "wingless" bird, which is allied to the ostrich and emu; it is nocturnal in its habits, and of about the size of a goose. The only quadrupeds are a few lizards and a species of rat; and there are no snakes and scarcely any noxious insects. Domestic animals that have been introduced thrive well, especially sheep and cattle.—There is an abundance of mineral resources, especially of coal, iron, and gold.—The principal exports are wool, gold, kauri gum, tallow, timber, and native flax.—The Maoris are a brave and intelligent people, allied to the Malays of the Malay Archipelago and the islands of Polynesia, and very different from the aboriginal Australians, and from the Papuans of Melanesia (see *NOTE*, under "New Britain," next page), having an olive-brown skin, a large stature, a full muscular development, and well-shaped, intellectual heads. (*NOTE.*—For this, and for other reasons, New Zealand is often classified with Polynesia.) The Maoris are now nearly all civilized, and have several representatives in the New Zealand Parliament.—WELLINGTON (27,833), the present capital, has a magnificent harbor and regular steamship connection with Sydney, London, Panama, and Vancouver. AUCKLAND (57,048), DUNEDIN (45,518), and CHRISTCHURCH (44,683), are the remaining principal towns.—Railways run almost throughout the whole length of the islands, connecting the larger towns. A submarine telegraph line connects New Zealand with Australia.

3. **The Fiji Islands.**—The Fiji Islands constitute a crown colony of Great Britain. They are of volcanic origin, and are exceedingly fertile, producing naturally the bread-fruit tree, bananas, plantains, cocoanuts, the sugar-cane, the sago-palm, and arrowroot. The natives, once proverbial for their savagery (especially for their cannibalism), have now, through the efforts of missionaries, largely become Christianized.

To the Teacher.—The islands are about 250 in number; their united area is 7,424 square miles; they are nearly all surrounded by barrier coral reefs. The population is about 123,000, of whom 3,500 are British colonists. The natives, who are of a mixed race—allied to the Malays of Polynesia on the one hand, and to the Papuans of Melanesia on the other—are an intelligent, energetic people—skilful in cultivating the soil, boat-building, house-making, mat-making, and pottery-making. Their principal article of food is the yam (a tuber, prepared for eating by boiling—somewhat like our potato), which there sometimes attains the length of 8 feet, and a weight of 100 lbs.

4. **Papua.**—Papua, next to Australia, the largest island of the world, has been but little explored; but it is known to be very fertile, to be clothed with magnificent forests of timber and fruit trees, to abound in the most valuable tropical food plants, and to possess great mineral wealth.

To the Teacher.—The area and population of Papua are both unknown; but it is supposed to contain about 325,000 square miles (somewhat more than Borneo), and to have a population of about 700,000. The people are of several related (though differing) races, being principally Malays (brown-skinned).

straight-haired) or Papuans (also called *Negritos*—dark-skinned, frizzle-haired, akin to the Negroid races of Africa). The Papuans are rude and barbarous. They wear scant clothing or none at all, and are given to tattooing and the ludicrous ornamentation of their noses with hideous bone-jewels; and many of them are addicted to cannibalism. But, though inferior to the Malays in civilization, they are superior to them in natural intelligence. Both races, too, in respect of civilization and intelligence, are far superior to the aboriginal Australians, since they live in houses, build boats, and cultivate the soil.—Papua is remarkable for its birds: among them are the beautiful bird of paradise, and many kinds of parrots. The island has few wild animals: it has no monkeys, but their place is supplied by climbing, monkey-like kangaroos.—The Dutch claim the western part of Papua; Germany claims the north-east; and Great Britain has established a government over the south-east.

To the Teacher.—*CLEBS*, the *SPICE ISLANDS*, and the other islands of the Malay Archipelago east of the Strait of Macassar, though geographically a part of Australasia, in their vegetable products so much resemble the eastern islands of the Malay Archipelago that they have been treated incidentally under "Asia." Their soil is most fertile; they abound in tropical fruits; and in spices they surpass all other parts of the world. (NOTE.—From the prevalence of Malay races in the Peninsula of Malacca, in the western part of the Malay Archipelago, and in the islands mentioned in this paragraph, these regions are collectively called *MALAYSIA*; but the boundaries between Malaysia and Melanesia (see NOTE below) are very indefinite.)

NEW BRITAIN, NEW IRELAND, and the other islands of the group now known as the *BISMARCK ARCHIPELAGO* (claimed by Germany), *NEW CALEDONIA*, the *LOYALTY ISLANDS*, and the *NEW HEBRIDES* (all claimed by France), and the *SOLOMON ISLANDS*, are the remaining principal islands of Australasia. Some of these are volcanic islands, but others, and a vast number of smaller islands, are of coral formation; and that part of the Pacific which they enclose is called the Coral Sea. Nearly all these islands (and especially the volcanic islands) are very fertile, and rich in tropical woods and fruits. Many of them abound in sandalwood; and, in the carriage of this valuable wood to China, Australian ships have a large trade. The inhabitants, who possess considerable intelligence and skill, are either Malays or Papuans (*i.e.* *Negritos*), but principally the latter. Formerly cannibalism, and other deplorable practices, were common among them; but in many of the islands, through the efforts of missionaries from Great Britain, France, the United States, and Canada, the morals and habits of the people have been much improved; some, indeed, are civilized and Christianized. The natives of the more northerly and westerly islands of these groups, however, still remain in a state of benighted barbarism—being, for the most part, immoral in their conduct, and indecent in their habits. (NOTE.—All the islands mentioned in this paragraph, together with Papua and some adjacent islands westward—from the prevalence among them of Papuan (*i.e.* *Negrito*) races—are collectively called *MELANESIA*, or the "Islands of the Blacks"; in this way they are distinguished from the Australian islands, in which the natives are chocolate-brown Australoids, and from the Polynesian islands, in which the natives are of the light-brown Malay race).



BREAD FRUIT.

Australasia and America—principally between the Tropic of Cancer and the Tropic of Capricorn. Many of these islands are of volcanic origin, and many are coral islands. The climate everywhere among them is pleasant and healthful: they have no seasons such as ours; with them it is always spring. The islands are nearly all of great fertility, and produce, naturally, rich fruits and food plants; moreover, they support in great luxuriance all tropical fruits and plants which have been introduced into them from other parts of the world. Few wild animals or insects were found when the islands first were visited by explorers, though birds were numerous; but all sorts of domestic animals have since been introduced, and

have thriven so well that some of them are now abundant as wild animals. Noxious insects, such as the mosquito, have, unfortunately, also been introduced. The natives of the various islands differ much from one another both in physical characteristics and in language, but they are all related to the Malays of the Malay Archipelago, and thus to the Mongolians of Asia, and are intelligent and skilful. Not long ago, in respect of morality, they were in a state of barbarism; but, through the

efforts of missionaries, the people of most of the islands have become at least partially civilized and Christianized; but in too many instances the vices of the white man (especially that of drunkenness) have been more firmly adopted than his virtues.

To the Teacher.—The positions of the following groups of islands should be taught from the map:—THE *SANDWICH ISLANDS*, THE *LADRONS OF MARIANNE ISLANDS*, THE *CAROLINE ISLANDS*, THE *SAMOAN OR NAVIGATOR ISLANDS*, THE *FRIENDLY OR TONGA ISLANDS*, and THE *SOCIETY OR TAHITIAN ISLANDS*.—The larger islands of Polynesia are generally mountainous and volcanic: of these the principal are the Sandwich Islands and the Society Islands.—The coral islands are much more numerous than the volcanic islands; but they are usually of small size; and they are nearly always low, rising only a foot or two above the surface of the ocean. The coral islands are formed by the limy secretions of marine plant-like animals, called polyps—the so-called "coral insects." Sometimes they are built close to and around other islands, in which case they are called "fringing reefs." Sometimes, when an island "fringed" with coral has been only partially sunk by volcanic action, the coral polyps continue their structure vertically upwards, and form what is known as a "barrier reef"; in this case a lagoon-like space is left between the coral ring and the top of the original island. When the submergence of the island gradually goes on until it is complete, the coral polyps continue their work, and the barrier reef becomes an "atoll"—that is, a nearly-circular or horseshoe-shaped ring of coral, enclosing a quiet lagoon within.—The coral islands,

LESSON XLV.

POLYNESIA.

1. The Islands of the Pacific.—Polynesia (that is, the Region of Many Islands) is the name given to the many small islands of the Pacific Ocean lying between

being of recent origin, cannot of necessity have deep soils; but, with their white beaches, placid lagoons, and soft vegetation, they form the most picturesque feature of ocean scenery.—The fertility of the Polynesian islands of volcanic origin, in esculent fruits and roots, and other food plants, surpasses that of all other parts of the world. The bread-fruit tree (whose unripe fruit is baked and eaten as bread) is the staple article of the diet of the natives,—except in the Sandwich Islands, where the kalo root, prepared into a sort of porridge called “poi,” is the national dish. Other abundant articles of food are the plantain, the pandanus, the arrowroot, the yam, and the sweet potato; while the orange, lemon, lime, grape, tamarind, pomegranate, custard-apple, mango, and fig, besides the cotton plant, the sugar-cane, the rice plant, the indigo plant, and the tobacco plant, grow luxuriantly wherever introduced. In the coral islands the vegetation is not so luxuriant as in the volcanic islands; but on them everywhere, in the fullest perfection, the coconut tree abounds, and furnishes to the inhabitants food, drink, clothing, household utensils and furniture, tools, weapons, cordage, and medicine.

2. The Sandwich Islands.—The Sandwich Islands constitute the Kingdom of Hawaii, and are the largest and most important of the islands of Polynesia. The native people are an intelligent, skilful, and progressive race. They were the first of the Pacific Islanders to put away their idols—this they did voluntarily; and subsequently, through the efforts of American missionaries, they have become Christianized and civilized. Unfortunately, however, they are rapidly dying out. Many Americans, British, and Portuguese, are settled in Hawaii, and control its industries. There are also many Chinese.—Situating on the ocean highway between America, and Asia and Australia, Hawaii is destined to become of great commercial importance.

To the Teacher.—The Sandwich Islands are all mountainous and volcanic, though they are fringed and reeved with coral, as are so many other of the volcanic islands of Polynesia. Hawaii, the largest of the islands, contains two active volcanoes, Mauna Loa and Kilauea. The crater of Kilauea (which, however, is but a hill on the side of Mauna Loa) is the largest in the world: it is 9 miles in circumference; its vertical sides are 1,000 feet deep; and its bottom is covered with a lake of liquid lava, at one end always red and boiling.—Owing to its trade relations with the United States and its favored position, the Kingdom of Hawaii has an important export trade. Sugar, rice, and coffee (produced in plantations established by foreigners), are the principal exports; but pulu (a fibre used for upholstering), hides, and wool, are also exported.—The government of the kingdom is modelled upon that of Great Britain. Education is well provided for, and all the natives can read and write. English is fast becoming the sole language of the islands. HONOLULU (20,487), the capital, has regular steamship connection with Yokohama, Sydney, Wellington, San Francisco, and Vancouver.

THE SOCIETY ISLANDS AND THE FRIENDLY ISLANDS are the two most important remaining groups of Polynesia. The Society Islands are under French rule; the Friendly Islands are independent, and have established a form of government somewhat similar to that of Great Britain. Both groups have been successful fields of missionary enterprise.

LESSON XLVI.

THE GREAT TRADE ROUTES OF THE WORLD.

1. Water Routes.—Commerce between distant countries is always effected, wherever possible, over water rather than over land, since for long distances water-carriage is cheaper than land-carriage, even by railway, although it is slower. In all navigation sailing-vessels were formerly used; but of late years steamships are displacing sailing-vessels very largely, the reason being that they are much more certain and regular in their trips, and that they can take routes which to sailing-vessels are impossible.

To the Teacher.—Another reason for this change is, that while the building of sailing-vessels has almost reached perfection, steamships are being constantly improved—in strength, in carrying capacity, in speed, and in economy of maintenance. Formerly, too, all vessels, both sailing craft and steam craft, were built of wood; now they are built altogether of iron, and even of steel. As illustrative of the superiority of steamships to sailing-vessels it may be stated that in the important traffic between England and China, which used to be effected by sailing-vessels sailing around the Cape of Good Hope, the quickest passage that could be made was over 90 days in length. Now, steamships can make this trip by way of the Suez Canal in 28 days. The construction of the Panama Canal will have a similar effect on the traffic between New York and San Francisco, and between England, and Japan and China, and perhaps do away with sailing-vessels on the route via

Cape Horn altogether. Again, the passage from England to Australia by the fastest sailing-vessels used to take 60 days; now it can be made in steamships in less than 34 days. Steamships have been greatly improved within even the last few years; and many now can make from 18 to 20 knots an hour (a “knot” is a nautical mile, and is equal to 6086.7 feet); and can maintain this speed for days together; so that the Atlantic voyage from New York to Liverpool, that used to take sailing-vessels from three weeks to a month, and not long ago even the fastest steamers 14 days, to accomplish, can now be made in a little more than 6 days.—Even on our Canadian lakes, steel-built steamships are displacing all other kinds of craft.—Assist the pupils to trace on the globe the following routes:—(1) From Quebec to Liverpool via the Straits of Belle Isle and the North Channel. (2) From Quebec to Glasgow via Cape Race. (3) From Halifax to Liverpool via St. George's Channel. (4) From New York to (a) Liverpool; (b) London; (c) Hamburg. (5) From Fort Nelson (Hudson Bay) to Liverpool. (6) From Southampton to New Orleans. (7) From San Francisco to Sydney (a) via Honolulu; (b) via Wellington. (8) From San Francisco to Canton. (9) From Vancouver to Yokohama. (10) From Sydney to London via Batavia and Singapore. (11) From London to Foo-chow. (12) From Plymouth to Cape Town. (13) From Halifax to Jamaica. (14) From Baltimore to Rio Janeiro. (15) From Port Arthur to Montreal. (16) From Quebec to Charlottetown and Halifax.—Question the pupils as to the commodities that would naturally be exchanged over these routes.

2. Land Routes.—In all enterprising communities, wherever the physical nature of the country makes their



construction possible, railways are built to facilitate traffic and inter-communication.

To the Teacher.—Even in South America already 12,000 miles of railway have been built, and before long it will be possible to make a continuous railway journey from any place in Canada to the southernmost part of Chili. Asia, though so populous, is far behind in railway construction; but even in Asia railways will soon be general, and will do away with caravans everywhere, except, perhaps, in the deserts. The only parts of the world in which caravan routes will remain perpetual are perhaps the desert regions of North Africa; but already French enterprise is building railways from the seaboard to the Sahara, both on the north and on the south-west.—Canada has shown remarkable enterprise in railway construction; its two great railways, the Canadian Pacific and the Grand Trunk, are, in respect of mileage, two of the very greatest railways in the world—the former having 4,960 miles, and the latter 3,449 miles.

—Trace on the map for the pupils the so-called "overland route" between London and Calcutta; also the railway routes from (1) Paris to Moscow; (2) Toronto to Mexico; (3) New York to San Francisco; (4) Halifax and Quebec to Vancouver.—The distance from Vancouver to Montreal is 2,906 miles, which is 365 miles shorter than the distance from San Francisco to New York. Even from Vancouver to New York (*via* Brockville) is 109 miles shorter than from San Francisco to New York. Also, from Yokohama to Vancouver is 5,042 miles, while from Yokohama to San Francisco is 5,163 miles. Again, from Montreal to Liverpool is 3,204 miles, or 3,458 miles, according as the route is north or south of Newfoundland, while from New York to Liverpool is 3,523 miles. Thus the shortest route between Yokohama and Liverpool runs through Canada.—When the railway now in course of construction between Winnipeg and Fort Nelson and Fort Churchill is completed, there will be a still shorter route, since the distance from Winnipeg to Liverpool *via* Churchill will be only 4,063 miles, while *via* Montreal (shortest route) it is 4,627 miles.

Pronunciation of Some of the More Difficult Geographical Names.

NOTE.—In the re-spelling of the names the following phonographical expedients are used:—*a*, as in *fat*, by *a* (unmarked); *ā*, as in *fair*, by *ay*; *ā*, as in *far*, by *ah*; *i*, as in *pine*, by *ei*; *i*, as in *pin*, by *i* (unmarked); *o*, as in *note*, by *oh*; *ō*, as in *not*, by *o* (unmarked); *ō*, as in *move*, by *oo*; *ū*, as in *tube*, by *ew*; *ū*, as in *tub*, by *u* (unmarked); *y*, as in *dull*, by *uh*. *Oi*, *ou*, *ch*, *g*, *j*, *s*, and *y*, represent the same sounds as in *oil*, *pound*, *chain*, *go*, *job*, *so* and *pass*, and *yes*, respectively; *zh* represents the sound of *z* in *azure*; the French *n* (nearly like the sound of *ng* in *song*) is represented by *n*; and the Scotch and German *ch* (as in *loch*) is represented by *ch*.

Aarhuus, ohr'hoos.	Esquimaux, es-kee'malt.	Linnhe, lin'ni.	Salisbury, sawlz'be-ri.
Adige, ah'dee-jay.	Euboea, yew-bee'a.	Lisle, leel.	Salonica, sah-loh-nee'ka.
Afghanistan, ahf-gahn'i-stahn'.	Euphrates, yew-fray'teez.	Liu-kiu, lee-oo'-kee-oo'.	Samoa, sah-moh'an.
Aix-la-Chapelle, ayks-lah-shah-pel.	Faroe, fay'roh.	Loire, lwa'r.	San Diego, san dee-ay'goh.
Alsace, ahl-sahs'.	Fiji, fee'jee.	Longueil, (Eng.) long-gew'l.	Scilly, sil'il.
Altai, ahl-tei'.	Friesland, freez'land.	Macao, mah-kah'oh.	Seville, se-vil'.
Amoy, ah-moi'.	Frio, free'oh.	Madeira, ma-dee'ra.	Seyres, (Fr.) sayvr.
Appalachians, ap-pa-lay'chee-anz.	Galashiels, ga-la-sheels'.	Maelar, may'lahr.	Seychelles, say-she'l.
Aral, ah'rah.	Gaicho, gah-oo'choh.	Maggiore, mah-joh'ray.	Shanghai, shang-hei'.
Arbroath, ahr'broth.	Geelong, gee-long'.	Magyar, mag'yahr or mod-yor'.	Shiraz, shee-rahz'.
Arichat, ah-ree-sha'.	Genoa, jen'oh-ah.	Malaga, mah'lah-gah.	Sierra Leone, see-er'rah lee-oh'nee.
Arkansas, ahr-kan-saw'.	Ghats, gahts.	Malay, ma-lay'.	Socotra, soh-koh'trah.
Ashantee, ash-an-tee'.	Gh. gee'ze.	Manaar, mah-nahr'.	Sofala, soh-fah'lah.
Asuncion, ah-soon-see-ohn'.	Gloucester, glos'ter.	Maori, mah'oh-ri.	Sofia, soh-fee'a.
Baikal, bel'kahl.	Gothenburg, got'en-burg.	Marienbad, mah-ree'en-bad'.	Soudan, soo-dahn'.
Balaric, bal-e-ahr'ik.	Granada, grah-nah'dah.	Marselles, mah-saylz'.	Spilgen, (nearly) splee'gen.
Ballarast, bal-a-rat'.	Greenwich, grin'ich.	Martinique, mah-tee-neek'.	St. Croix, (Eng.) kroi.
Barbadoes, bahr-bay'dohz.	Grenada, gree-nay'dah.	Millan, mil'an.	St. Gotthard, goth'ahrd.
Beauce, bohs.	Griqua, gree'kwan.	Miquelon, mik'e-lon.	St. Pierre, pee-ayr'.
Beloochistan, be-loo'chis-tahn'.	Guadalquivir, gaw-dahl-kwiv'er.	Miramichi, mir-a-mi-shee'.	Strasbourg, strahs'boorg.
Benares, ben-ah'rees.	Guaranis, gah-rah'n'ees.	Mistassini, mis-tas-sin'i'.	Stromboli, strohm'boh-lee.
Benguela, ben-gay'lah.	Guiana, gee-ah'nah.	Mobile, moh-beel'.	Stuttgart, stuh'tgahrt.
Berthier, ber-tee-ay'.	Havre, (Eng.) hah'ver.	Mocha, mok'a.	Sumatra, soo-mah'trah.
Beirut, bee-root'.	Hawaii, hah-we'i-ee.	Montevideo, (Eng.) mon'tee-vid'ee-oh.	Tahiti, tah-hee'tee.
Bhotan, boh-tahn'.	Herzegovina, herts-e-goh-vee'nah.	Montmagany, mox-mah'nay'ee.	Tanganyika, tan-gan-ye'e'ka.
Bienne, bee-en'.	Hoang-ho, hwang-hoh'.	Mozambique, moh-zam-beek'.	Teheran, te-he-rah'n'.
Bloemfontein, bluhm-fon'tein.	Hoboken, ho-boh'kgn.	Munich, mew'nik.	Thibet, ti-be't.
Bologna, boh-loh'nyah.	Honolulu, ho-no-loo'loo.	Mysore, mei-sohr'.	Thun, toon.
Braas' Or, bra-dohr'.	Hue, hway.	Nanaimo, na-nei'moh.	Thur, toor.
Bremen, bray'men.	Irkutsk, eer-kootsk'.	Nantes, (Eng.) nants.	Ticino, tee-chee'noh.
Brienz, bree'ents.	Iroquois, ee-roh-kwaw.	Natal, na-tahl'.	Tiflis, tif-lees'.
Bruges, (Fr.; nearly) breezh.	Ispahan, ees-pah-hahn'.	Negrito, ne-gree'toh.	Tokio, toh-kee-oh'.
Bucharest, boo'cha-rest.	Java, jah'vah.	Nepaul, ne-pawl'.	Toulouse, too-loos'.
Buda-Pesth, boo'dah-pest'.	Jungfrau, yong'frou.	Neuchâtel, (Fr. nearly) nush'ah-tel'.	Transvaal, trans-vahl'.
Bushire, boo-sheer'.	Kahlahari, kah-lah-hah'ree.	Nevada, ne-vah'dah.	Tripoli, tres'poh-lee.
Carls, kei'roh.	Kaministiquia, kahm-in-is'ti-kwi-a.	New Orleans, new or lee-anz.	Trosachs, tros'aks.
Carlsle, kahrl'leil'.	Kamtschatka, kam-chat'ka.	Ngami, n-gah'nee.	Tynemouth, tin'muth.
Carniola, kah-nee-oh'lah.	Kenia, ke-nee'ah.	Nijni-Novgorod, nizh'nee-nov'goh-rod.	Tyrol, tee-rohl'.
Celebes, sel'ee-beez.	Kewatin, kee-wah'tin'.	Notre Dame, notr-dahm'.	Uist, wist.
Cettenje, set-tayn'yay.	Khartoum, kah-loom'.	Oyasse, n-yahs'sah.	Utrecht, oo'trecht.
Ceylon, see-lohn'.	Khiva, kee'vah.	Odessa, oh'den-say.	Valenciennes, (Fr.) vah-lon-see-ent.
Chignecto, shig-nek'toh.	Kilauea, ki-lou-ay'ah.	Ouse, ooz.	Venezuela, ven-e-zwee'lah.
Chili, chil'e.	Killima-njaro, kil-ee'mahn-jahr'oh.	Pamir, pah-meer'.	Versailles, ver-saylz'.
Chimborazo, chim-boh-ray'zoh.	Kirkcaldy, ker-kaw'di.	Pembina, pem'bi-na.	Vosges, vohzh.
Cobequid, koh'kid.	Kirkcudbright, ker-koo'bree.	Pisa, pee'sah.	Wallachia, waw-lay'ki-a.
Colorado, kol-oh-rah'doh.	Kronstadt, krohn'staht.	Pompeii, pom-pee-yel.	Warwick, wor'ik.
Connecticut, kon-net'i-cut.	Kurlie, koo'ril.	Pondicherry, pon-di-she'r'i.	Winnipeg, win-i-pe-goh'sis.
Couchiching, coo'chi-ching.	Lasalle, lah'lahn.	Potomac, poh-toh'mak.	Woolwich, wuh'ich.
Cracow, krah-kou'.	Ladrones, lah-droh'nz'.	Pruth, prooth or proot'.	Worcester, woos'ter.
Cusco, koo-rah-soh'ah.	Landes, (Fr.) lond.	Qu'Appelle, kah-pel'.	Wyoming, wei-oh'ming.
Cyclades, sik'la-deez.	Lausanne, loh-zahn'.	Quichas, kee'chahz.	Xeres, cher-es'.
Dahomey, dah-hoh'mi.	Leicester, les'ter.	Quinte, kwint'tee.	Yemen, yem'en.
Darien, dah'ree-en.	Leinster, len'ster.	Reuss, rois.	Yenikale, yay-nee-kah'lay.
Delhi, del'i.	Leipsic, leip'sik.	Rheims, reemz.	Yenisel, ye-nee-say'ee.
Dnieper, nee'per.	Leitrim, lee'trim.	Riga, ree'ga.	Yokohama, yo-ko-hah'mah.
Drogheda, droch'e-dah.	Levant, lee-vant'.	Rodrigues, roh-dree'gez.	Yosemite, yoh-sem'i-te.
Duluth, doo-looth'.	Leyden, lei'den.	Saghalien, sah-chah-leen'.	Zambesi, zam-bee'zi.
Dumfries, dum-frees'.	Liège, lee-ayzh'.	Sahara, sah-hah'rah.	Zante, zahn'te.
Ecuador, ek-wah-dohr'.		Said, sah-seed'.	Zurich, (Eng.) zoor'rik.
			Zuyd-r Zee, i of der za'

between
Moscow:
Quebec
e, which
k. Even
an from
is 5,042
n, from
route is
is 3,528
ool runs
between
will be a
Churchill
miles.

, by ah;
e; 1, as
s in tub,
ectively;
s in lock)

oh'nee.

see-err.

sis.